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ABSTRACTS

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Acknowledgement

We would like to acknowledge Cordelia Ashwanden as the Scientific Programme Co-ordinator in preparing the Abstract Book and Gambro for generously sponsoring the Abstract Book.

Foreword

Dear Friends and Colleagues,

Welcome to the 33rd Conference of the EDTNA/ERCA. Once again the aim of this Conference is to further the progress of renal care through the presentation of papers and the discussions both formal and informal which occur during the Conference between the members of the multi-professional health care teams.
We have two new interest groups, Hypertension and Anaemia, which will join with the other interest groups in having sessions devoted to these specialties. The Research and Education Boards also will be giving us the most recent developments and will share with us their new ideas and past successes.
Abstracts submitted each year continue to increase both in subject matter and number. This year the Scientific Programme Committee has decided to choose fewer abstracts to be presented in sessions but more abstracts have been accepted for showing as posters. We hope that everyone attending the Conference will view the posters as there is much to be learnt from these very topical presentations. To show a poster means a lot of hard work and these posters give an excellent opportunity for learning and understanding other people's work. There are, as usual, special times set aside for the poster authors to explain their work to the delegates and we would encourage you to attend these sessions. The smaller number of abstracts chosen for presentation in sessions means that those chosen are particularly appropriate for the sessions and of a quality to enhance those sessions.
Following the success of last year's "on-line" submission of abstracts, this year's abstracts have only been accepted "on-line". We hope you have enjoyed the benefits of this system. Our reputation continues to grow and the standard of abstracts rises accordingly, these Conferences enjoy international world wide appeal. Therefore if you did send an abstract which has not been accepted this time, do not be discouraged and please go on sending your work. If you have queries about how to write a good abstract ask your Key Member, he/she will be very willing to assist you.
The Programme Committee is committed to offering a programme that is of interest to everyone within the Renal Field, from senior managers to newly appointed staff and throughout all the disciplines. There would be no Conference without you - the delegates - and it is only through sharing our knowledge and experience that our practice can advance. In this changing world we must all share our knowledge to promote advances in renal practice. It is through building on our knowledge that we can hope to challenge the future.
The Abstract Book lists all selected abstracts submitted by members of our Association as well as those from our invited Guest Speakers. In this book the abstracts are divided into sections of topics, the posters have their own section which is also divided into topics.
The programme has been compiled round the Conference Topics. Each session has contributions from various professionals who comprise our multi-disciplinary Association all reflecting our Conference Theme of using past knowledge to challenge the future and provide better treatment outcomes for our patients.
The success of these Conferences depends upon you - the delegates. Your input is vital to the relevance of future Conferences. We need all of your ideas and your attendance at the Conference. Please remember to fill in the evaluation forms and let us know what you enjoyed and what you would like in the future. The planning committee does try to act on your suggestions.
Congratulations to all those who have had abstracts accepted and we hope you enjoy presenting your work. We welcome you and all the delegates to Geneva the home of the World Health Organisation. We hope that the new knowledge and stimulation received during the Conference will inspire you to return to your units ready to share your experiences with your colleagues and contribute to the wellbeing of our renal patients.
I would like to thank everyone who has contributed to this programme and look forward to seeing you in Geneva.

Cordelia Ashwanden
Scientific Programme Co-ordinator

Vorwort

Liebe Freunde und Kollegen,

Willkommen zur 33. EDTNA/ERCA Konferenz. Einmal mehr ist das Ziel dieser Konferenz, den Fortschritt der nephrologischen Pflege durch Vorträge und Diskussionen, die von allen medizinischen Berufsgruppen auf dieser Konferenz geführt werden, zu beschleunigen.
Wir haben zwei neue Schwerpunktarbeitsgruppen, Hypertonie und Anämie, die gemeinsam mit den anderen Arbeitsgruppen Veranstaltungen zu ihren Fachbereichen durchführen werden. Auch Forschungs- und Schulungsbeirat werden uns über ihre neusten Entwicklungen berichten und mit uns ihre neuen Ideen und jüngsten Erfolge teilen.
Die jedes Jahr eingesandten Abstracts nehmen sowohl an Umfang als auch an Themenbereichen zu. Dieses Jahr hat sich das wissenschaftliche Programmkomitee entschieden, weniger Abstracts für die Sitzungen zu akzeptieren, allerdings werden mehr Abstracts als Poster gezeigt. Wir hoffen, dass alle Konferenzteilnehmer die Poster ansehen werden, da man sehr viel aus dieser Art von plakativer Präsentation lernen kann. Ein Poster zusammenzustellen bedeutet viel harte Arbeit und diese Poster bieten eine ausgezeichnete Gelegenheit, die Arbeit von anderen zu verstehen und etwas Neues zu lernen. Es gibt, wie üblich, spezielle Zeiten, wo die Posterautoren den Konferenzteilnehmern ihre Arbeiten vorstellen werden und wir möchten Ihnen die Teilnahme an diesen Veranstaltungen empfehlen. Die geringere Zahl von Abstracts, die für Vorträge ausgewählt wurden, bedeutet, dass diese Vorträge als besonders geeignet gelten und von hoher Qualität sind.
Nach dem großen Erfolg der "Online" Übermittlung von Abstracts im letzten Jahr, wurden die diesjährigen Abstracts nur noch "Online" akzeptiert. Wir hoffen, sie haben von diesem System profitiert. Unsere Reputation nimmt weiter zu und der Standard der Abstracts erhöht sich dementsprechend. Diese Konferenz genießt weltweites Ansehen. Wenn Sie also ein Abstract eingesandt haben, das diesmal nicht akzeptiert wurde, seien Sie nicht enttäuscht und schicken Sie uns weiter Ihre Arbeiten. Haben Sie Fragen zum Verfassen eines guten Abstracts, fragen Sie Ihr Keymember, er/sie wird Ihnen gerne dabei helfen.
Das Programmkomitee hat die Pflicht ein Programm anzubieten, dass für jeden im nephrologischen Umfeld interessant ist, von der altgedienten Leitungskraft bis zum neuen Personal aus allen Disziplinen. Es gäbe keine Konferenz ohne Sie - die Konferenzteilnehmer - und nur indem wir unser Wissen und unsere Erfahrung miteinander teilen, kann sich unsere Praxis weiterentwickeln. In dieser sich verändernden Welt müssen wir alle unser Wissen teilen und den Fortschritt in der nephrologischen Praxis fördern. Nur wenn wir unser Wissen erweitern, sind wir den Herausforderungen der Zukunft gewachsen.
Das Abstractbuch enthält alle Abstracts, die von den Mitgliedern unseres Verbandes und von den eingeladenen Gastrednern übermittelt wurden. In diesem Buch sind die Abstracts nach Themenbereichen unterteilt, die Poster haben ihren eigenen Bereich, der ebenfalls nach Themen unterteilt ist.
Das Programm wurde rund um die Konferenzthemen zusammengestellt. Jede Sitzung beinhaltet Beiträge verschiedener Fachleute, die unserem multidisziplinären Verband angehören und unser Konferenzthema mit relevantem Wissen füllen um für die Zukunft gewappnet zu sein und bessere Behandlungsergebnisse für die Patienten zu erzielen.
Der Erfolg der Konferenz hängt von Ihnen ab - den Teilnehmern Ihre Anregungen sind ein wichtiger Bestandteil für die Bedeutung zukünftiger Konferenzen. Wir brauchen Ihre Ideen und Ihre Teilnahme an der Konferenz ist wichtig. Bitte denken Sie daran, die Evaluierungsbögen auszufüllen und teilen Sie uns mit, was Ihnen gefallen hat und was sie sich für die Zukunft noch wünschen. Das Planungskomitee versucht Ihre Wünsche umzusetzen.
Glückwunsch an alle, deren Abstract angenommen wurde und wir wünschen Ihnen viel Spaß bei der Präsentation Ihrer Arbeit. Wir möchten Sie und alle Teilnehmer in Genf willkommen heißen, der Heimat der Weltgesundheitsorganisation. Wir hoffen, dass Sie das neue Wissen und die Anregungen während der Konferenz inspirieren wird und Sie in Ihre Zentren zurückkehren, um Ihre Erfahrungen mit Ihren Kollegen zu teilen und damit zum Wohlbefinden der Patienten beitragen helfen.
Ich möchte allen danken, die zu diesem Programm beigetragen haben und freue mich, Sie in Genf begrüßen zu dürfen.

Cordelia Ashwanden
Koordinatorin des wissenschaftlichen Programms

Avant-propos

Chers amis et collègues,

Bienvenue à la 33ème conférence de l'EDTNA/ERCA. Le but de cette conférence est, comme d'habitude, de suivre les progrès des soins en néphrologie au travers de présentations et de discussions tant formelles qu'informelles pendant la conférence entre les membres des équipes de soins multi professionnelles.
Deux nouveaux groupes d'intérêt, Hypertension et Anémie, se joindront aux autres groupes d'intérêt avec des sessions qui leurs seront consacrées. Les conseils de la recherche et de l'éducation nous parleront des développements les plus récents et partageront également leurs nouvelles idées et leurs succès.
Le nombre d'abstracts soumis continue à augmenter tant en thèmes et qu'en nombres. Cette année, le Comité du programme scientifique a décidé de choisir moins d'abstracts à présenter oralement, plus d'abstracts donc ont été acceptés sous forme de posters. Nous espérons que toutes les personnes présentes à la conférence consulteront les posters car il y a beaucoup à apprendre de ces présentations très caractéristiques. Un poster est le résultat d'un gros travail et donne une excellente occasion d'apprendre et de comprendre le travail d'autres soignants. Il y aura, comme d'habitude, des périodes où les auteurs des posters expliqueront leur travail aux délégués et nous vous encourageons à assister à ces sessions. Le nombre réduit d'abstracts choisis pour les présentations signifie qu'ils sont particulièrement adaptés à ce type de présentation et sont d'une qualité élevée pour relever encore la qualité de ces sessions.
Après le succès de la soumission "en ligne" des abstracts l'année dernière, les abstracts de cette année ont seulement été acceptés "en ligne". Nous espérons que vous avez apprécié les avantages de ce système. Notre réputation continue à se développer et le niveau des abstracts augmente en conséquence, nos conférences ayant un retentissement mondial. Par conséquent si vous avez envoyé un abstract qui n'a pas été accepté cette fois ci, ne soyez pas découragé et continuez à nous envoyer vos travaux. Si vous avez des questions sur la façon d'écrire un bon abstract, adressez vous à votre Key Member, il ou elle pourra vous aider.
Le Comité du programme est chargé de vous offrir un programme s'adressant aux intérêts de chacun dans le domaine de la néphrologie, des cadres au nouveau personnel et dans toutes les disciplines. Il n'y aurait pas de conférence sans vous, les délégués, et c'est seulement par le partage de nos connaissances et de nos expériences que notre pratique peut avancer. Dans ce monde en perpétuel changement, nous devons tous partager nos connaissances pour favoriser les progrès dans la pratique des soins en néphrologie. C'est en construisant à partir de nos connaissances que nous pouvons espérer pouvoir répondre aux défis du futur.
L'abstract book rassemble tous les abstracts choisis soumis par des membres de notre association ainsi que ceux des invités. Dans cet ouvrage, les abstracts sont distribués par sujets, les posters ont leur propre section qui est également divisée en sujets.
Le programme a été architecturé autour des sujets de la conférence. Chaque session a des contributions des divers professionnels de notre association multidisciplinaire tout en reflétant le thème de la conférence : "Employer nos connaissances passées pour répondre aux défis du futur" ainsi que pour fournir de meilleurs traitements à nos patients.
Le succès de ces conférences dépend de vous, les délégués. Votre feedback est essentiel pour la pertinence des futures conférences. Nous avons besoin de toutes vos idées ainsi que de votre présence à la conférence. Pensez à compléter les formulaires d'évaluation et nous faire savoir ce que vous avez apprécié et ce que vous souhaiteriez y trouver à l'avenir. Le comité de planification essaye d'agir selon vos suggestions.
Nos félicitations à tous ceux qui ont eu des abstracts acceptés et nous espérons que vous aurez du plaisir à présenter votre travail. Nous vous souhaitons la bienvenue à Genève, centre de l'Organisation Mondiale de la Santé. Nous espérons que les nouvelles connaissances et les stimuli de la conférence vous donneront l'envie de partager vos expériences avec vos collègues et de contribuer au bien-être de nos patients.
Je voudrais remercier tous ceux qui ont contribué à ce programme et espère vous rencontrer à Genève.

Cordelia Ashwanden
Coordonnatrice du programme scientifique

Voorwoord

Beste vrienden en collega's

Welkom op de 33ste conferentie van EDTNA/ERCA. De bedoeling van de conferentie is de vooruitgang van de nefrologische zorg te accentueren via voorstelling van papers en via formele en informele discussies tussen leden van de multiprofessionele teams van de gezondheidszorg.
We hebben twee nieuwe interessegroepen, hypertensie en anemie, die naar analogie van de andere interessegroepen sessies zullen hebben die verband houden met hun eigen specialiteit. De onderzoeks - en educatieraad zullen hun meeste recente ontwikkelingen naar voor brengen en hun nieuwe ideeën en successen met jullie delen.
De abstracts blijven ieder jaar in onderwerp en in aantal toenemen. Dit jaar heeft het wetenschappelijk programmacomité besloten om minder abstracts als sessiepresentatie toe te laten, maar meer als poster. We hopen dat de deelnemers aan de conferentie deze posters talrijk zullen bekijken omdat er veel te leren valt van deze topicpresentaties. Een poster naar voor brengen houdt heel wat werk in en het is een uitstekende gelegenheid om wat te leren van de werkwijze van anderen. Er is speciaal tijd uitgetrokken voor de orale presentatie van sommige posters en we hopen dat de deelnemers deze sessies massaal zullen volgen. Het kleinere aantal abstractpresentaties in de sessies wil zeggen dat de gekozen items zeer goed kaderen in het concept van die sessies en bijdragen tot een hogere kwaliteit ervan.
Na het succes van de online inzending van de abstracts verleden jaar, werden dit jaar de abstracts alleen meer online toegelaten. We hopen dat jullie de voordelen van dit systeem konden appreciëren. Onze reputatie blijft toenemen, zo ook de norm van de abstracts en dat krijgt wereldwijd nogal wat weerklank. Als je een abstract ingezonden hebt en het werd niet aanvaard, laat je dan niet ontmoedigen en blijf volharden Als je moeilijkheden hebt met het schrijven van een abstract, contacteer dan je keymember, hij/zij zal je helpen.
Het programmacomité heeft zich ingezet om een interessant programma samen te stellen voor iedereen die werkzaam is in de nefrologie, van senior managers tot nieuwelingen van alle disciplines. Er zou geen conferentie zijn zonder jullie - de deelnemers - en het is enkel door het onderling verspreiden van kennis en ervaring dat onze praktijk blijft verbeteren. In deze veranderende wereld is het een must onze kennis mee te delen om de vooruitgang van de nefrologische zorg te promoten. Door verder te bouwen op onze kennis kunnen we elke toekomstige uitdaging aan.
Het abstractboek bevat alle geselecteerde abstracts van onze leden alsook van de uitgenodigde gastsprekers. In dit boek zijn de abstracts verdeeld in secties van topics; zo hebben ook de posters een eigen sectie die in topics verdeeld is.
Het programma werd opgebouwd ronde de conferentie topics Iedere sessie heeft bijdragen van verscheidene professionelen uit alle lagen van de vereniging en allemaal reflecteren ze het thema van de conferentie, namelijk bouwen op het verleden om de toekomst aan te kunnen en om betere behandelingsresultaten voor onze patiënten te verwezenlijken.
Het succes van deze conferentie hangt van jullie - de deelnemers - af. Jullie inbreng is vitaal voor de relevantie van toekomstige conferenties. We hebben jullie ideeën en jullie aanwezigheid op de conferentie nodig. Denk er aan om de evaluatieformulieren in te vullen en laat ons weten wat jullie leuk vonden en wat je in de toekomst zou willen. Het plancomité probeert rekening te houden met jullie suggesties.
Gelukwensen voor degenen wier abstract aanvaard werd en we hopen dat je een leuke presentatie zult houden. We verwelkomen jullie en alle deelnemers in Genève, de thuishaven van de Wereld Gezondheidsorganisatie. We hopen dat de nieuwe kennis en de stimulans die je tijdens de conferentie opdoet een bron van inspiratie mag zijn wanneer je terug op je afdeling komt en je alle ervaringen met je collega's kan delen tot welzijn van onze nefrologische patiënten.
Ik zou iedereen willen bedanken die zijn bijdrage aan dit programma geleverd heeft en ik kijk ernaar uit om je in Geneve te ontmoeten.

Cordelia Ashwanden
Coördinatrice van het wetenschappelijk programma

Prólogo

Queridos Amigos y Compañeros,

Bienvenidos al 33 Congreso de la EDTNA/ERCA. Una vez más, el objetivo de este Congreso es fomentar el progreso del cuidado renal mediante la presentación de artículos y debates, tanto formales como informales, entre los miembros de equipos sanitarios multidisciplinarios.
Este año contamos con dos nuevos Grupos de Interés, el de Hipertensión y el de Anemia, que se unirán al resto de los Grupos de Interés en sesiones dedicadas a sus especialidades. Los Consejos de Investigación (RB) y Educación (EB) nos mostrarán sus últimos resultados y compartirán con nosotros sus nuevas ideas y antiguos éxitos.
El número de abstracts recibidos y temas abordados aumenta cada año tanto en variedad como en número. Este año, el Comité del Programa Científico ha decidido elegir menos abstracts para ser presentados en comunicaciones y aumentar el número de las presentaciones en póster. Esperamos que todos los asistentes al Congreso veáis los pósters, ya que puede aprenderse mucho con este tipo de presentaciones. Mostrar un póster supone mucho trabajo, y estos pósters nos proporcionan una oportunidad excelente para aprender y comprender el trabajo realizado por otras personas. Habrá, como es habitual, sesiones especiales junto al póster para que los autores tengan la oportunidad de explicar su trabajo, por lo que nos gustaría que asistierais a ellas. Que el número de abstracts elegidos sea menor significa que los elegidos son de una gran calidad y que resultan particularmente apropiados para las sesiones.
Continuando con el éxito del año anterior en cuanto al envío de abstracts "on-line", este año solo se han aceptado abstracts "on-line". Esperamos que hayáis disfrutado de los beneficios de este sistema. Nuestra reputación continúa creciendo y el listón aumenta en concordancia, ya que nuestro Congreso goza de reputación internacional. Por tanto, si mandaste un abstract y no ha sido aceptado esta vez, no te desanimes y sigue enviándonos tu trabajo. Si tienes alguna pregunta sobre cómo escribir un buen abstract pregunta a tu Key Member y el te ayudará gustosamente.
El Comité del Programa Científico se ha comprometido a ofrecer un programa que resulte interesante a todo aquel que esté relacionado con el Campo Renal en cualquier disciplina, desde los más altos grados hasta el personal nuevo. Sin vosotros, delegados, el Congreso no existiría, pues nuestra práctica solo puede avanzar si compartimos nuestros conocimientos y experiencias. En este mundo en constante cambio debemos compartir todo nuestro saber para promocionar los avances en la práctica renal. Solo construyendo sobre nuestro conocimiento podemos esperar desafiar al futuro.
El Libro de Abstracts presenta una relación de todos los abstracts seleccionados enviados por los miembros de nuestra Asociación y por los Ponentes Invitados. En este libro, los abstracts pueden encontrarse divididos en secciones y agrupados por temas. Los pósters tienen también su propia sección por temas.
El programa ha sido elaborado en torno al Tema del Congreso. Cada sesión cuenta con contribuciones realizadas por diferentes profesionales pertenecientes a nuestra multidisciplinaria Asociación, reflejando todas ellas el Tema del Congreso con el fin de utilizar los conocimientos antiguos para desafiar al futuro y proporcionar mejores resultados en el tratamiento de nuestros pacientes.
El éxito de este Congreso depende de vosotros, delegados. Vuestra participación es vital para la importancia de futuros Congresos. Os damos la bienvenida a Ginebra, sede de la Organización Mundial de la Salud. Esperamos que los nuevos conocimientos y estímulos recibidos durante el Congreso os inspiren a volver a vuestras unidades preparados para compartir vuestras experiencias con vuestros compañeros y contribuir al bienestar de nuestros pacientes renales.
Me gustaría dar las gracias a todos aquellos que han contribuido a este programa. Espero veros en Ginebra.

Cordelia Ashwanden
Coordinadora del Programa Científico

Prefazione

Cari amici e colleghi,

Benvenuti alla 33 Conferenza dell'EDTNA/ERCA. Lo scopo di questa Conferenza è, ancora una volta, favorire il progresso dell'assistenza nefrologica attraverso la presentazione di lavori e la discussione sia formale che informale che si verifica nelle Conferenze tra i membri di team sanitari multi-professionali.
Abbiamo due nuovi gruppi di interesse, Ipertensione e Anemia, che si uniranno agli altri nell'avere sessioni dedicate a queste specialità. L'Educational e il Research Board ci offriranno gli sviluppi più recenti e condivideranno con noi le loro idée e i loro successi del passato.
Gli abstracts che ci vengono sottoposti continuano ad aumentare ogni anno sia nell'argomento che in numero. Quest'anno il Comitato per il programma Scientifico ha deciso di scegliere meno abstracts per la presentazione nelle sessioni, ma ha aumentato la presentazione dei posters. Speriamo che coloro che parteciperanno alla Conferenza visiteranno i posters perchè vi è molto da imparare da queste presentazioni topiche. Presentare un poster significa fare un grande lavoro e questi poster danno un'ottima possibilità di imparare e comprendere il lavoro di altre persone. Come al solito, vi saranno dei momenti speciali organizzati perché gli autori dei posters possano spiegare il loro lavoro ai delegati, e vorremmo incoraggiarvi a seguire queste sessioni. Il piccolo numero di abstracts scelti per la presentazione nelle sezioni significa che quelli selezionati sono particolarmente appropriati per le sessioni, e di qualità per l'avanzamento di queste ultime.
Seguendo i successi avuti negli anni precedenti della spedizione "on-line" degli abstracts, quest'anno gli abstracts sono stati accettati esclusivamente on-line. Speriamo abbiate gradito i benefici di questo sistema. La nostra reputazione continua a crescere e lo standard degli abstracts cresce di conseguenza, rendendo la Conferenza gradevole a livello internazionale. Quindi, se avete inviato un abstract che non è stato accettato questa volta, non scoraggiatevi e continuate ad inviarci i vostri lavori. Se avete problemi su come scrivere un buon abstract chiedete ai vostri Key Members, loro saranno lieti di aiutarvi.
Il comitato per il Programma si è impegnato per offrirvi un programma interessante per tutti gli operatori del campo nefrologico, dai manager anziani al personale appena assunto, passando attraverso tutte le discipline. Non ci sarebbe la Conferenza senza di voi- i delegati - ed è solo attraverso la divulgazione delle nostre conoscenze ed esperienze che la nostra pratica può crescere. In questo mondo in continuo evolversi tutti noi dobbiamo divulgare la nostra conoscenza e gli avanzamenti nella pratica nefrologica. E' attraverso la costruzione delle nostre conoscenze che possiamo sperare di affrontare il futuro.
L'Abstract Book elenca tutti gli abstracts scelti inviatici dai soci della nostra Associazione e quelli dei relatori ospiti. In questo libro gli abstracts sono divisi in sezioni a seconda dell'argomento trattato, i posters hanno la loro sezione anch'essa suddivisa per argomento.
Il programma è stato stilato intorno all'argomento della Conferenza. Ogni sessione ha il contributo dei vari professionisti che compongono la nostra Associazione multidisciplinare e che riflettono il tema della nostra Conferenza, di usare la nostra conoscenza per sfidare il futuro e fornire migliori risultati di trattamento ai nostri pazienti.
Il successo di questa Conferenza dipende da voi - i delegati. I vostri input sono vitali per la rilevanza delle Conferenze future. Abbiamo bisogno di ognuna delle vostre idee e della vostra partecipazione alla Conferenza. Ricordate di compilare il modulo di valutazione per farci sapere ciò che vi è piaciuto e cosa vorreste in futuro. Il Comitato Pianificatore cerca sempre di mettere in atto i vostri suggerimenti.
Congratulazione a tutti coloro cui è stato accettato un abstract e speriamo che vi piacerà presentare il vostro lavoro. Diamo il benvenuto a voi e a tutti i delegati a Ginevra, la casa dell'Organizzazione Mondiale della Sanità. Speriamo che le nuove conoscenze e gli stimoli ricevuti durante la Conferenza vi ispirino a tornare nei vostri centri pronti a condividere le vostre esperienze con i vostri colleghi e a contribuire al benessere dei vostri pazienti nefrologici.
Vorrei ringraziare tutti coloro che hanno contribuito a questo programma, e vi do il mio arrivederci a Ginevra.

Cordelia Ashwanden
Co-ordinatore del Programma Scientifico

Πρόλογος

Αγαπητοί Φίλοι και Συνάδελφοι,
Καλώς ήρθατε στο 33ο Συνέδριο της EDTNA/ERCA. Για άλλη μια φορά στόχος του Συνεδρίου είναι η προαγωγή της νεφρολογικής φροντίδας μέσα από την παρουσίαση άρθρων και τις συζητήσεις, επίσημες και μη κατά τη διάρκεια του Συνεδρίου ανάμεσα στα μέλη των διεπιστημονικών ομάδων παροχής φροντίδας υγείας.
Φέτος παρουσιάζουμε δύο νέες Ομάδες Ειδικού Ενδιαφέροντος, της Υπέρτασης και της Αναιμίας, οι οποίες μαζί με τις υπόλοιπες Ομάδες θα προγραμματίσουν εκπαιδευτικές συνεδρίες γύρω από το ειδικό τους αντικείμενο. Το Εκπαιδευτικό και το Ερευνητικό Συμβούλιο θα μας παρουσιάσουν τα πιο πρόσφατα επιτεύγματα και θα μοιραστούν μαζί μας τις νέες ιδέες και τις προηγούμενες επιτυχίες τους.
Οι περιλήψεις που υποβάλλονται κάθε χρόνο συνεχίζουν να αυξάνονται τόσο σε θεματολογία όσο και σε αριθμό. Αυτή τη χρονιά η Επιστημονική Επιτροπή Προγράμματος αποφάσισε να επιλέξει λιγότερες περιλήψεις για παρουσίαση σε αίθουσες, αλλά έχουν γίνει αποδεκτές περισσότερες περιλήψεις που θα παρουσιαστούν υπό τη μορφή των αναρτημένων ανακοινώσεων. Ελπίζουμε όλοι οι σύνεδροι να μελετήσουν τις αναρτημένες ανακοινώσεις, καθώς μέσα από αυτές τις πολυθεματικές παρουσιάσεις οι γνώσεις αυξάνονται και βελτιώνονται. Η παρουσίαση μιας αναρτημένης παρουσίασης προϋποθέτει πολλή σκληρή δουλειά και αποτελούν άριστο μέσο μάθησης και κατανόησης του έργου άλλων ατόμων. Επίσης, όπως συνηθίζεται αφιερώνεται ειδικός χρόνος στους συγγραφείς των ανακοινώσεων να παρουσιάσουν το έργο τους στους απεσταλμένους αντιπροσώπους της Ένωσης και σας ενθαρρύνουμε να είστε εκεί να τους παρακολουθήσετε. Η επιλογή μικρότερου αριθμού περιλήψεων που θα παρουσιαστούν σε αίθουσες σημαίνει εύλογα ότι αυτές που έχουν επιλεγεί είναι ιδιαίτερα κατάλληλες για τις συγκεκριμένες συνεδριάσεις και φυσικά υ ψηλού επιπέδου.
Μετά την περσινή επιτυχία της «on-line» υποβολής των περιλήψεων, οι φετινές περιλήψεις έγιναν αποδεκτές μόνο «on-line». Ελπίζουμε να ικανοποιηθήκατε από τα πλεονεκτήματα αυτού του συστήματος. Το κύρος και η φήμη μας συνεχώς μεγαλώνουν και ανάλογα προσαρμόζονται τα κριτήρια επιλογής των περιλήψεων, ενώ τα Συνέδριά μας απολαμβάνουν παγκόσμιο θαυμασμό. Επομένως, εάν στείλετε μία περίληψη, η οποία δεν έγινε αυτή τη φορά αποδεκτή να μην αποθαρρυνθείτε και σας παρακαλούμε να συνεχίσετε να μας στ έλνετε τις εργασίες σας. Για οποιαδήποτε απορία γύρω από τη συγγραφή μιας καλής περίληψης μπορείτε να απευθυνθείτε στο εθνικό σας Μέλος Κλειδί (Key Member), που είναι πάντα πρόθυμος/η να σας εξυπηρετήσει.
Η Επιτροπή του Προγράμματος δεσμεύεται να προσφέρει ένα ενδιαφέρον πρόγραμμα σε όλους όσους εργάζονται στο Νεφρολογικό Τομέα, από τους ανώτατους διοικητές έως τους νεότερους συναδέλφους. Δεν θα υπήρχε Συνέδριο χωρίς εσάς και μόνο μέσα από την ανταλλαγή γνώσεων και εμπειριών θα αναβαθμιστεί η πρακτική μας. Μέσα σε έναν κόσμο που συνεχώς εξελίσσεται, η αναβάθμιση της πρακτικής του τομέα μας θα επιτευχθεί μέσω της ανταλλαγή της κατακτηθείσας γνώσης. Θέτοντας ως εποικοδόμημα τις γνώσεις μας μπορούμε να διεκδικήσουμε το μέλλον.
Στο Βιβλίο Περιλήψεων θα βρείτε όλες τις επιλεγμένες περιλήψεις που έχουν υποβληθεί από μέλη της Ένωσής μας και από προσκεκλημένους Επίσημους Ομιλητές. Στο βιβλίο αυτό οι περιλήψεις ταξινομούνται σε θεματικές ενότητες, οι αναρτημένες ανακοινώσεις παραθέτονται σε άλλη ενότητα και χωρίζονται επίσης σε θεματικές ενότητες.
Το πρόγραμμα έχει συνταχθεί με βάση τις Θεματικές Ενότητες του Συνεδρίου. Σε κάθε συνεδρία συμβάλουν διάφοροι επαγγελματίες που απαρτίζουν τη διεπιστημονική μας Ένωση και όλες είναι σχετικές με το Θέμα του Συνεδρίου, της προβολής δηλαδή της κατακτηθείσας γνώσης ως πρόκληση για το μέλλον και ως δυνατότητα εξασφάλισης καλύτερων θεραπευτικών αποτελεσμάτων για τους ασθενείς μας.
Η επιτυχία των Συνεδρίων εξαρτάται από εσάς – τους συνέδρους. Η συνεισφορά σας προσδιορίζει την οργάνωση επόμενων Συνεδρίων. Χρειαζόμαστε τις ιδέες σας και η παρακολούθηση του Συνεδρίου από εσάς είναι απαραίτητη. Μην ξεχάσετε να συμπληρώσετε τα έντυπα αξιολόγησης και να μας ενημερώσετε για τα στοιχεία που βρήκατε πολύ ικανοποιητικά και για το τι θα θέλατε να δείτε στο μέλλον. Η επιτροπή σχεδιασμού προσπαθεί να υλοποιήσει τις προτάσεις σας.
Συγχαρητήρια σε αυτούς των οποίων οι περιλήψεις έγιναν αποδεκτές και ελπίζουμε να ικανοποιηθείτε από την παρουσίαση της εργασίας σας. Καλωσορίζουμε εσάς και τους εκπροσώπους σας στη Γενεύη, την πόλη έδρα του Παγκόσμιου Οργανισμού Υγείας. Ελπίζουμε η νέα γνώση και τα ερεθίσματα που θα αποκομίσετε από το Συνέδριο να αποτελέσουν πηγή έμπνευσης για εσάς και να επιστρέψετε στη μονάδα σας έτοιμοι να μοιραστείτε τις εμπειρίες σας με τους συναδέλφους συμβάλλοντας στην καλύτερη ποιότητα ζωής των νεφροπαθών.
Θα ήθελα να ευχαριστήσω όλους όσους συνέβαλαν στη δημιουργία αυτού του προγράμματος και ανυπομονώ να σας δω όλους στη Γενεύη.

Cordelia Ashwanden
Συντονίστρια Επιστημονικού Προγράμματος

Guest Speakers

Prof.	M. Burnier	Switzerland
Prof.	J.S. Cameron	United Kingdom
Ms.	M. Charcharidou	Greece
Prof.	C. Combe	France
Prof.	J. Dirks	Canada
Dr.	J. Divino	Sweden
Ms.	B. George	United States of America
Prof.	R. Gokal	United Kingdom
Dr.	P. Harden	United Kingdom
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Dr.	S. Krietemeyer	Germany
Dr.	B. Kristal	Israel
Dr.	R. Lins	Belgium
Dr.	V. Mickley	Germany
Mr.	H.-D. Polaschegg	Austria
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Prof.	B. Rutkowski	Poland
Prof.	R. Sells	United Kingdom
Dr.	J. Shaffer	United Kingdom
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Prof.	R. Zanotti	Italy

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18:00 Conference Opening Ceremony · Saturday, 4 September 2004, Room A+B+C
Guest Speaker: Professor Michel Burnier – What are the challenges of today's nephrology?

Scientific Programme
Sunday, 5 September 2004

09:00 — **ROOM A + B + C INTERPRETATION**

Time's arrow in nephrology

Prof. J. Stewart Cameron

Prof. J. Stewart Cameron is a world-renowned expert in renal disease. He has written numerous books and given many presentations at international conferences.

During this opening session, he will be giving a history of renal disease and an overview of how dialysis started. He will explain how early dialysis affects what we do today and will explore how we can approach the future of renal care.

Chair: Althea Mahon

10:30 — **C O F F E E**

	Room A+B Interpretation	Room C Interpretation	Le Cervin/Le Mont-Blanc	Le Salève	Room D
11:00	**Past, Present and Future Challenges in Transplantation** Organ donation in a materialist world: The future **Prof. Robert Sells** *Chairs: Ray Trevitt, Mirjana Calic* **44** A challenging case of donor and recipient belief **Christina Ho** **241** An innovative approach towards non-compliance among renal transplant recipients **Béatrice Schnarwyler** **112** Donating a kidney to a spouse - expectations and decision making **Meira Sternberg**	CORPORATE EDUCATION SESSION **GAMBRO** Timely measures to achieve dialysis targets *Chair: Judith Hurst* What should be removed by dialysis, and how much is enough? **Lars-Göran Nilsson, Lund, Sweden** Assessment of delivered Kt/V for every HD treatment **Lene Nissen, Copenhagen, Denmark** Clinical benefits of shortening the drain phase in APD **Randi Ipsen, Lund, Sweden**	**Challenging Changing Healthcare Practices** Pre-dialysis integrated care **Dr. Paul Harden** What can be done to improve collaboration between renal units and primary care teams? **Mrs. Nicola Thomas** *Chairs: Jane Macdonald, Eva-Lena Nilsson* **62** Redesigning pre-dialysis pathways for improved efficiency **Julie Owen** **188** A Pre-dialysis co-ordinator service for patients with End Stage Renal Disease **Marianne Peterson**	**Challenging Practices for the Future** **Psycho/social Abstracts** *Chairs: Richard Dingwall, Joke Roelfsema* **142** Patient education or patient motivation - is information enough? **Linda Hanna** **219** Aesthetics and nephrology nursing - an art from the heart **Maria Saraiva** **31** Depression and health-related quality of life in haemodialysis patients **Mukadder Mollaoglu** **4** Structured nursing intervention and impact on symptom management and quality of life in haemodialysis patients **Merav Siani** **68** Increasing diversity of the pre-dialysis nurse role **Jackie McNicholas** **74** Withdrawal of dialysis **Nora Kerigan** **180** A better life **Adele McNeillie**	**Challenging Changing Knowledge** **Anaemia Interest Group Workshop** *Chairs: Iris Romach, Johann Heinrich Schorr* The revised European Best Practice Guidelines for anaemia - implications for practice **Karen Jenkins** Sub-optimal response to EPO - strategies for nurses **Alison Roche** Developing competencies for nurses managing anaemia **Lynne Fullerton** **11** Preventing anaemia in the pre-dialysis population **Amanda Balshaw-Greer** **Future Plans and Projects**
12:30	**C O U N T R Y M E E T I N G S A N D L U N C H**				

Scientific Programme
Sunday, 5 September 2004

	Room A+B Interpretation	Room C Interpretation	Le Cervin/Le Mont-Blanc	Le Salève	Room D
14:15	**Changing Practices in Healthcare** The impact of Acute Renal Failure on the outcome of the critically ill patient **Dr. Eric Hoste** Modalities for the treatment of Acute Renal Failure: What influences the choice treatment? **Prof. Robert Lins** *Chairs: Monique Elseviers, Hilde Langmo* **153** Acute Renal Failure in patients with sepsis in a surgical Intensive Care Unit **Stefaan Claus** **145** Acute Renal Failure and haemodialysis methods in Intensive Care Units **Evagellia Tsianaka**	CORPORATE EDUCATION SESSION **GENZYME** Preparing the future: Opportunities in the management of CKD stage 5 (ESRD) patients on dialysis *Chair: Hedi Lückerath* Unknown causes of renal disease: Is it Fabry's disease? **Loraine Thompson, UK** Therapeutic approaches in the management of hyperphosphatemia andcardiovascular calcification **Jordi Bover, Spain** Practical aspects of dietetic phosphate management **Gail Nevett, UK**	**Changing Practices in Paediatric Healthcare** Do not rush **Prof. Willem Proesmans** *Chairs: An Demol, Aase Riemann* **106** Renal failure: Can we treat the patients on a paediatric ward? **Aisheh Ali-Salah** **95** Continuous Ambulatory Peritoneal Dialysis treatment in a patient with low Socio Economic status **Ummuhan Zaimoglu** **107** Paediatric peritoneal catheter exit-site: Management and care **Encarnación Tornay Muñoz**	**Challenging Changing Care Practices** **Oral Posters** Care of the patient *Chairs: John Sedgewick, Anastasia Laskari* **186** 'Text Talk' - Using modern technology to improve communication with kidney transplant recipients **Amanda Dilley** **86** An improvement group was created to identify the nursing diagnosis in a nephrology care unit **Rosario García Palacios** **42** Information booklet for pre-renal and renal patients **Theresa Herity** **135** Managing end of life care for patients with End Stage Renal Disease **Maria Fish** **134** The patient's comorbidities score does not predict accurately the workload of haemodialysis nurses **Marie Droulez** **26** Perceived social support in haemodialysis patients **Mukadder Mollaoglu** **24** Involvement of community nurses in the treatment of Peritoneal Dialysis patients **Hadas Madar**	**The Challenge of Past, Present and Future Practices** **Social Workers Interest Group Workshop** How the needs and expectations of patients have changed over the years **Mr. Gerard Boekhoff** *Chair: Theodôr Vogels* **168** Coping and managing strategies of haemodialysis patients **Cameron McGarva** **214** Psycho/social assessment and support of dialysis patients over the years **Richard Dingwall** **Future Plans and Projects**
15:45	**T E A**				
	Room A+B Interpretation	**Room C Interpretation**	**Le Cervin/Le Mont-Blanc**	**Le Salève**	**Room D**
16:15	**Challenges of Past, Present and Future Knowledge and Practices** Nutrition and inflammation: Major factors of outcome in patients with chronic renal failure **Prof. Christian Combe** How important is nutrition? **Mrs. Franca Pasticci** *Chairs: Diane Green, Laurent George* **84** Nurses' perceptions of nutritional care provided to nephrology patients: A phenomenological study **Elizabeth Baker** **38** Spreading the word – improving the quality of dietetic renal care **Caroline Duncan**	CORPORATE EDUCATION SESSION **ROCHE** Evidence-based anaemia treatment and improving patient outcomes: Can we make the difference? *Chair: Althea Mahon* Optimising the treatment of anaemia in haemodialysis patients: from theory to practice **Gilbert Deray** Are we ready to meet new anaemia treatment recommendations for CKD patients? **Donal O'Donoghue** Evidence-based treatment and the dynamics of the haemodialysis unit: how can nurses make a difference? **Jean-Pierre Van Waeleghem** Roundtable discussion 'How should healthcare systems facilitate adherence to anaemia treatment guidelines?' *Facilitator: Donal O'Donoghue*	**Challenging Changing Practices** **Abstracts** Changing Techniques *Chairs: Anna Marti i Monros, Hrvojka Mozanic* **187** Updating the practice of haemodiafiltration - a nurse led challenge **Catherine Houlstone** **9** A novel technique for measuring sodium mass balance in haemodialysis and haemodiafiltration **Paula McLaren** **40** Pressures are not suitable access quality parameters in AV fistulas **Mirka Portova** **109** Structural vascular access surveillance: The national standard **Wil van der Mark** **76** Dialysis access surveillance: Integrative approach or specialised nurse practitioner? **Cees Blokker** **212** A multidisciplinary approach to vascular access **Jacqueline Barrie**	**Changing Practices** **Pre-dialysis Treatment Options** Discussion Panel **Dr. Paul Harden** **Mrs. Nicola Thomas** **Mr. Theodôr Vogels** *Chairs: Jane Macdonald, Gianina Veres* **198** Establishing patient preference for pre-dialysis information using Conjoint Analysis **John Sedgewick** **171** Improving individual patient care: Implementation of an integrated pre-dialysis programme **Paul Van Malderen**	**Challenging Future Developments** **Technicians Interest Group Workshop** Technical aspects of wireless transmission of data **Mr. Jan Olav Høgetveit** The "wireless" revolution **Dr. James Tattersall** *Chair: Borge Rolfsen* **157** Information technology and the benefit of patients **Ian Evans** **Future Plans and Projects**

Scientific Programme
Monday, 6 September 2004

	Room A+B Interpretation	Room C Interpretation	Le Cervin/Le Mont-Blanc	Le Salève	Room D
09:00	**Challenging Changing Practices** Management of dialysis access *Chairs: Monique Elseviers, Alessandra Zampieron* Peritoneal Dialysis access: Current practice in Europe **Mr. Jean-Yves De Vos** Preserving Peritoneal Dialysis access **Prof. Ram Gokal** Haemodialysis access: Current practice in Europe **Miss Theodora Kafkia** Preserving haemodialysis access **Prof. Volker Mickley**	**Challenging the Future** Renal Replacement Therapy in Central and Eastern Europe – past, present and future **Prof. Boleslaw Rutkowski** *Chairs: Paul Van Malderen, Anna Mróz* **115** A case study: The future for home haemodialysis is daily dialysis but pregnancy was an unexpected and challenging outcome **Jane Andrew** **63** Home haemodialysis without a helper - problem or challenge? **Rikke Boe** **185** The clinical environment of haemodialysis nursing **Rosario García Palacios**	**Challenging Future Educational Needs** **Advanced Education** Trends in nursing science **Prof. Renzo Zanotti** Nursing theories: Constant resource for practise **Ms. Maria Charcharidou** *Chairs: Waltraud Küntzle, Maria Saraiva* **215** Using action research to improve nurse teaching practice **Fiona Murphy** **82** Senior staff nurse development programme **Maria Bailey**	**Challenging Past, Present and Future Care** **Oral posters** Factors affecting treatment *Chairs: Diane Green, Colin Jamieson* **7** Does a haemodialysis patients economic status affect nutritional indices? **Nikos Selemidis** **177** The influence of socioeconomical status and intellectual level of the families on the renal replacement therapy in children living in our region **Saime Hanci** **181** Treating renal transplant patients with iron and Epo/Darbepoetin: It slows down the need for renal replacement therapy **Jane Hassan** **160** Self-care among patients receiving haemodialysis **Mukadder Mollaoglu** **97** Bone disease in dialysis patients **Milica Kljak** **131** The evaluation of a bone densitometry service in a population of patients with chronic kidney disease **Coral McNichols-Thomas** **41** Improving permanent vascular access in haemodialysis patients by developing a nurse co-ordinated service **Helen Spooner**	**Challenging Future Practices** **Transplant Interest Group Workshop** The donation and the transplant: How is it organised? **Mr. Frank Van Gelder** The transition from paediatric to adult transplant patient **Dr. Paul Harden** *Chair: Ray Trevitt* **39** Workshop for patients waiting for a transplant: obstacle or challenge? **Nurith Blumenthal** **Future Plans and Projects**
10:30	**C O F F E E**				
	Room A+B Interpretation	**Room C Interpretation**	**Le Cervin/Le Mont-Blanc**	**Le Salève**	**Room D**
11:00	**Challenging the Future** Crossing borders in order to improve: Low donation numbers and how to improve **Mr. Frank Van Gelder** Paediatric reflections **Ms. Grainne Walsh** *Chairs: Jacqueline Barrie, Liljana Gaber* **58** Update on Thailand registry on dialysis and kidney transplantation **Suchada Boonkaew**	CORPORATE EDUCATION SESSION **HOSPAL** Haemodialysis and anticoagulation: A new therapeutic approach *Chair: Maria Fettouhi* **Introduction** Haemostasis and anticoagulation in haemodialysis **Andres Ila (Spain)** Haemostasis and heparinized dialysis membrane: What is the rationale ? **Manuela Fantini (Italy)** **Clinical & practical experience** First clinical studies on reduction of systemic heparinization **Gina Grandmaitre (France)** Clinical advantages of heparin-free haemodialysis: - High bleeding risk patients - Daily dialysis **Monique Pachot (France)** Establishing a heparin-free haemodialysis protocol. Experience of the Geneva University Hospital **Marie-Geneviève Droulez (Switzerland)**	**Challenging Changing Practices** Individualising the dialysis prescription *Chairs: Maurice Harrington, Hans Vlaminck* Haemodialysis prescription: Current practice in Europe **Mr. John Wright** Customizing of haemodialysis fluids **Dr. Elizabeth Lindley** Peritoneal Dialysis prescription: Current practice in Europe **Mr. Borge Rolfsen** Developments in Peritoneal Dialysis fluids **Prof. Ram Gokal**	**Challenging Changing Knowledge** **Diabetes Abstracts** *Chairs: Tony Goovaerts, Luc Picavet* **194** Pre-dialysis insulin - meeting the changing needs of the Type 2 diabetic on haemodialysis **Karen Marchant** **90** Treating the insulin dependent, diabetes mellitus, End Stage Renal Disease patient with intra peritoneal insulin administration **Michel Roden** **200** Comparison of Peritoneal Dialysis patients with or without diabetes by adequest test **Emine Akýn** **85** Experiences with using Glargine in haemodialysis patients **Debbie Whyte** **21** Iron deficiency in pre-dialysis patients with Chronic Kidney Disease and diabetes **Karen Jenkins** **67** Reduction in the mortality in diabetic dialysis patients treated by the Haemocontrol Biofeedback System method **Nataly Anopolsky**	**Challenging Knowledge for the Future** **Education Board Workshop** *Chair: Nicola Thomas* Introduction to the Education Board **Nicola Thomas** Publication of the Post-Basic Core Curriculum 2nd edition **Waltraud Küntzle** On-line learning - a collaborative project **Judith Hurst** The accreditation programme for nursing schools and experiences from Finland **Michael Reichardt** **89** The development of an educational support team in the renal framework **Mary Cunliffe** **This workshop will be followed by an advice session on the EDTNA/ERCA accreditation programme for post-basic courses**
12:30	**L U N C H**				

Scientific Programme
Monday, 6 September 2004

	Room A+B Interpretation	Room C Interpretation	Le Cervin/Le Mont-Blanc	Le Salève	Room D
14:15	**Challenging the Future** Will genomics provide the solution to hypertension? **Prof. Yoram Yagil** *Chairs:* *Mª Cruz Casal García* *Josep Mª Gutiérrez Vilaplana* **137** Evaluation of the benefits of blood pressure continuous monitorisation on haemodyalisis patients using HASTE function **Anna Vilas Rivares** **114** On-line evaluation of the dialysis efficiency through biosensors **Roberto Bedetti** **149** Exercise during haemodialysis: Is it an indicator of better quality of dialysis? **Christina Doutsiou**	**Challenging the Future** Technological Advances The future of dialysis machines **Mr. Hans-Dietrich Polaschegg** Disinfection procedures for water treatment in haemodialysis: Necessary evil or improving treatment quality? **Dr. Stephan Krietemeyer** History of chronic dialysis treatment **Mr. Borge Rolfsen** *Chairs: André Stragier* *Lorna Engblom* **117** Ionic dialysance measurement - a great step forward **Jitka Pancírová**	**Challenging Changing Practices** Renal failure, where does it end? **Mr. Peter Wesselink** *Chairs: Cordelia Ashwanden* *Aase Riemann* **22** A collaborative approach to managing patients not wishing to have dialysis **Nerys Brick** **234** Joint working with hospice teams - a renal collaborative approach **Julia Daniels**	CORPORATE EDUCATION SESSION **NIPRO EUROPE** Salt Toxicity *Chair: Michael Reichardt* Is salt the uraemic toxin? **Stanley Shaldon, MD Monaco** How to control salt imbalance and hypovolemia in dialysis patients **Reinhardt Brunkhorst, MD, Germany** Discussion *Facilitator:* *Arezki Mahiout, PhD*	**Challenging Past, Present and Future Practices** **Paediatric Interest Group Workshop** *Chairs: An Demol* *Jacqueline Knoll* Introduction to Paediatric Access care project **Jacqueline Knoll** Paediatric Haemodialysis and Peritoneal Dialysis in Europe **Monique Elseviers** **Future Plans and projects**
15:45	**T E A**				

16:15 **A N N U A L G E N E R A L M E E T I N G – R O O M C**

EDTNA/ERCA
ANNUAL GENERAL MEETING 2004

Chair: Georgia Thanasa, EDTNA/ERCA President

Agenda

Welcome by the President and Appointment of Scrutineers
Approval of the 2003 AGM Minutes
Association Activities and Progress Report
Presentation of Accreditation Certificates to successful nursing schools
"Comparison of Renal Care Practice in Europe" by Dr. Monique Elseviers & Jean-Yves De Vos
Approval of 2003 Financial Report
Results of Executive Committee Votes
Introduction of New Executive Committee
Association Objectives 2004/2005
Motions
Future Conferences
Any Other Business
Date and Venue for Next AGM
Raffle

- Attendance at the AGM will be credited with 1 point
- A top-of-the-range Electronic Personal Organiser will be raffled at the end of the session (attendees only)

Scientific Programme
Tuesday, 7 September 2004

	Room A+B Interpretation	Room C Interpretation	Le Cervin/Le Mont-Blanc	Le Salève	Room D
09:00	**Challenging Knowledge and Practices** **Metabolism and Nutrition** New recommendations for renal bone disease – can the goal be achieved in the future? **Dr. Preben Joffe** Fat hormones and obesity in renal patients: Is bigger better? **Dr. Daniel Teta** *Chairs: Jitka Pancírová, Maria Fettouhi* **15** Serum calcium, phosphate and PTH levels in Dutch dialysis patients; do they meet the K/DOQI criteria? **Lucia ten Brinke** **93** Fractures in patients on haemodialysis: Can we predict them by measuring bone mass detected by digital X-ray radiogrammetry? **Ángeles González-Carcedo**	**Challenging the Future** **Optimising care pathways** Integrated Renal Care: From concept to evidence **Dr. Jose Divino** *Chairs: Jane Macdonald, Luc Picavet* **79** Successful pregnancy complicated by Human Immunodeficiency Virus in a patient receiving Peritoneal Dialysis **Sandy Goodwin** **45** Post renal biopsy care: A questionnaire based inquiry **Carl Richardson** **229** Puncture pain in haemodialysis: Influence of fistula needle gauge **Rodolfo Crespo**	**Challenging Changing Practice** Practical issues in the management of hypertension **Prof. Michel Burnier** The role of diet in hypertension **Ms. Anastasia Liossatou** *Chairs: Mª Cruz Casal García, Hedwig Celosse* **220** Interest of modelled sodium with biofeedback systems for improving tolerance sessions in dialysis patients **Amélie Albac** **218** Blood volume control ....a better dialysis ..... a better life....? **Anahita Nikman**	**Challenging Past, Present and Future Practices** **Withdrawal of Treatment** Discussion Panel *Chair: Richard Dingwall* **Ms. Bina George** **Prof. Ram Gokal** **Mr. Theodôr Vogels** **Mr. Peter Wesselink** **23** The grief process in chronic illness **Lesley Lappin** **20** Improving the care for dialysis patients in Nursing/Residential Homes **Dorothy McKeown**	**Challenging Changing Practices for the Future** **Oral Posters** Infections *Chairs: Jacqueline Barrie, Alessandra Zampieron* **65** Early diagnosis without peritonitis symptoms **Kezban Urhan** **208** Aetiology of leakage in Peritoneal Dialysis patients and evaluation of interventions **Zemine Dogrusoz** **204** Peritonitis in children: The effect of Peritoneal Dialysis modality and adequacy **Sevginar Sentürk** **130** Treatment with plasma-pheresis: Single-centre experience **Andreja Milicic** **210** Role of external cuff in untreated catheter exit site infections **Rahime Korkmaz** **182** Treatment of sepsis with haemoperfusion by the use of polymyxin immobilized fibre: A clinic case **Natascia Mari**
10:30	**C O F F E E**				

	Room A+B Interpretation	Room C Interpretation	Le Cervin/Le Mont-Blanc	Le Salève	Room D
11:00	**Past, Present and Future Challenges of Care** **Peritoneal Dialysis** Aquaporins in PD Treatment **Prof. Raymond Krediet** *Chairs: Althea Mahon, Margherita Rivetti* **237** The relation of the volume balance with the education level in patients on Continuous Ambulatory Peritoneal Dialysis **Sacide Arslan** **59** A comparison of Continuous Ambulatory Peritoneal Dialysis therapy tailored to two different targets of urea clearance **Karen Mills** **172** Factors affecting the decline in referral of End Stage Renal Disease patients to Peritoneal Dialysis treatment - preliminary results of a multi-centre study **Hadas Madar**	**Challenging the Future of EPO** New facets of Erythropoietin treatment in Chronic Kidney Disease patients **Dr. Batya Kristal** *Chairs: Lesley Bennett, Birsen Yürügen* **77** Diet and iron correction: A novel approach to optimise anaemia management in pre-dialysis patients **Marion Johnson** **113** Performing your own "Iron-In" **Jennifer Williams**	**Meeting the Educational Needs of the Future** Reforms in nursing education across Western Europe: From past experiences to future challenges **Prof. Ada Spitzer** *Chairs: Nicola Thomas, Elisheva Milo* **80** Evaluating staff and student experiences of multidisciplinary continuous professional development via the distance learning mode **Judith Hurst** **221** Dear Diary..... **Eva-Lena Nilsson** **33** Implementing nurse prescribing within a haemo-dialysis unit - developing a prescribing partnership **Martin Gerrish**	**Challenging Practices Vascular Access** The combined surgical and endovascular approach to vascular access problems **Prof. Volker Mickley** *Chairs: Jean-Pierre Van Waeleghem, Mª Teresa Ramalhal Teixeira* **3** Implications of arteriovenous fistula surgery on patient function and activities of daily living **Renaye Daniells** **138** Access management recirculation and blood flows: A clinic perspective **Elisabeth Harman** **94** Shunt surveillance and occlusion: An analysis of efficiency **Edwin Wijnen**	**Challenging Changing Knowledge** **Hypertension Interest Group Workshop** *Chair: Josep Mª Gutiérrez Vilaplana* Introduction **Josep Mª Gutiérrez Vilaplana** Nursing role in hypertension in Europe **Josep Mª Gutiérrez Vilaplana** The role of diet in hypertension **Anastasia Liossatou** Exercise and stress **Heather Jayasekera** Health Education **Speaker tbc** **Future Plans and Projects**
12:30	**L U N C H**				

Scientific Programme
Tuesday, 7 September 2004

	Room A+B Interpretation	Room C Interpretation	Le Cervin/Le Mont-Blanc	Le Salève	Room D
14:00 (NB 1 hour 15 minutes)	**Meeting the Challenges of the Future** Post-transplantation malignancy risk and surveillance strategies **Dr. Paul Harden** Long term effects of Renal Replacement Therapy **Dr. James Tattersall** *Chairs: Elizabeth Lindley, Eva-Lena Nilsson* **240** Longterm outcome of haemodialysis catheters using a standardised management: A 5-year observational study **Martina Coenen** **217** Baseline variables associated with early death and short term survival after first dialysis session **Sedef Ozcan**	**Challenging Past, Present and Future Practices** Nutrition support in Chronic Renal Failure **Dr. Jon Shaffer** *Chairs: Diane Green, Ione Ashurst* **140** Nutritional management of sclerosing peritonitis - a challenge **Lydia Scothern** **30** A prospective study of nutritional and bioelectrical impedance indices in daily nocturnal hemodialysis **Mona Rassi**	**Challenging Changing Practices** Discussion Panel Vascular access **Ms. Nicki Angell-Barrick** **Mr. Tony Goovaerts** **Ms. Rosa Marticorena** *Chairs: Jean-Pierre Van Waeleghem, Anastasia Laskari* Analysis of the "Buttonhole" cannulation technique **Mr. Tony Goovaerts** **239** One year experience of the application of a modified buttonhole cannulation technique to problematic fistulas, by multiple cannulators **Rosa Marticorena**	**Challenging Past, Present and Future Practices** Clinical Practice Guidelines: Implications for practice **Ms. Bina George** *Chairs: Theodôr Vogels, Cameron McGarva* **96** Improving quality standards within the renal directorate **Trudy Manji**	**Meeting the Challenges of the Future** **Abstracts** Patient care *Chairs: Maria Saraiva, Josefa Fenselau* **91** A better quality of life through education and empowerment **Geraldine Hyslop** **176** On-going patient education: From pre-dialysis to dialysis **Ronis Wagner** **146** Patient Education - an empirical experience in a university hospital setting **Anne Sexton Dobby** **87** Development of the role of dialysis coordinator **Julia Harding**

15:30 Finish 16:30

LAST SESSION – ROOM A + B

A world perspective on renal care: The challenges of prevention and treatment

Prof. John Dirks

Professor Dirks is the Professor Emeritus of Medicine, University of Toronto and Chair of the Commission for the Global Advancement of Nephrology. He is a leading spokesman for the prevention and regression of chronic kidney diseases.

Presentation of Manuscript and Poster Scholarships

WHAT ARE THE CHALLENGES OF TODAY'S NEPHROLOGY?

Michel Burnier;
Division of Nephrology, Lausanne, Switzerland.

The incidence of chronic renal diseases leading to end-stage renal failure is steadily increasing in almost all countries and is becoming an important issue in healthcare management. Besides the effect of aging, one of the main problems is the development of renal complications in the context of the metabolic syndrome, a syndrome which associates obesity, hypertension, dyslipidemia and a glucose intolerance which may lead to the development of type 2 diabetes. Today, this syndrome has become epidemic and not surprisingly diabetic and vascular nephropathies represent the most common causes of end stage renal disease. Hopefully, the metabolic syndrome is partly preventable provided major changes in our socio-cultural behaviours are accepted. Thus, the anticipated epidemic of diabetes and cardiovascular complications which cause renal failure could be reduced by a better and earlier control of body weight, smoking, blood pressure and dyslipidemia. But besides these opportunities, nephrologists are confronted with several other important challenges such as the earlier management of chronic renal failure to prevent late referrals or the development of more effective transplantation programs in order to retard or prevent the need for dialysis. Nevertheless, some patients will always need dialysis programs and for those patients, everything should be done to improve their quality of life and their socio-economic rehabilitation.

PRACTICAL ISSUES IN THE MANAGEMENT OF HYPERTENSION

Michel Burnier;
Division of Nephrology, Lausanne, Switzerland.

Hypertension is one of the leading risk factors contributing to the progression of renal diseases towards end stage renal failure. In dialysis and transplant patients, hypertension is also a major cardiovascular risk factor leading to complications such as stroke, congestive heart failure or myocardial infarction which represent the main causes of death in this population. An effective control of blood pressure has been repeatedly reported to reduce the occurrence of cardiovascular and renal complications. However, in most industrialized countries only a small percentage of hypertensive patients (about 25-30%) have a well controlled blood pressure which according to actual guidelines should be below 140/90 mmHg and even lower in some patients. This apparent lack of efficacy in managing blood pressure control is due to several factors including the adequate use of antihypertensive drugs particularly in renal failure patients, the long term compliance to drug therapy of most patients and also sometimes the poor compliance to recommendations by health care providers. In this presentation, practical issues in the management of hypertensive patients with renal diseases will be discussed, based on case presentations.

TIME'S ARROW IN NEPHROLOGY

J.Stewart Cameron;
Guy's Campus, London, United Kingdom.

Nephrology as an organized speciality is still an infant, yet to reach its half century. Much has happened in this short time, however, and some of us have witnessed almost the whole story at close quarters. Although immense changes have occurred it is wrong, as always, to equate "change" with "progress". Much real progress has indeed been made, but often with the aid of new materials, new medicines and new technical advances, frequently arising from areas outside nephrology or even of medicine, rather than new ideas. Also, there has been a price to pay for growth and technical improvement. Machines for performing and monitoring dialysis have been revolutionised, but the principles of dialysis remain exactly the same. What has changed completely are the patients under treatment for established renal failure: from tiny groups of young patients in occasional units suffering with primary renal disease, they have expanded into a world-wide, million- strong army of mostly retired elderly, up to half of whom suffer from diabetes. A further quarter of a million renal transplant recipients have brought into being a new sub-specialty of medicine, transplantation medicine, whose variety reminds us yet again that to achieve good nephrological care one must have expertise in many areas, and over- or too early specialisation is detrimental. Thus today Nephrology has become almost entirely focused on treating irreversible renal damage. However as the fiscal and social cost of using palliative rather than truly curative treatments for renal disease becomes ever greater, more and more attention now focuses on prevention.

NURSING THEORIES: CONSTANT RESOURCE FOR PRACTISE

Maria Charcharidou;
General Hospital of Athens, Athens, Greece.

Nurses have always acknowledged the rights of clients of all ages to be both informed and active participants in care. For achieving this, nurses use several elements such as knowledge, skills, inspiration and dedication. The knowledge comes from a number of nursing theories, that they try to describe, interpret and lead the different phenomenon which affect the individuals' health.
After a thorough search in the literature, the connection between nursing theories and nursing practice is presented. Medline and internet were used for finding the study material. The key - words were Nursing, Theories, Practice.
Firstly some definitions and illustrations about the main nursing theories are given. Also a brief analysis of their usefulness is presented. Moreover, a critical analysis of the nursing theories is offered. In the end, diverse paradigms support the value of nursing theories in everyday nursing practice.
Nurses know why they act in the way they act when they are aware of nursing theories. Also, they can justify their vocation. The nursing theories' study helps nurses in developing logical thinking and special skills. Finally, it helps in defining the values in the nursing profession and determining the objectives in nursing practice, education and research.
Certain problems in connecting nursing theories with nursing practice, are mentioned in the literature. The way to face these problems is to establish an effective collaboration between nurse-researchers, nurse-educators and nurse-leaders.

NUTRITION AND INFLAMMATION: MAJOR FACTORS OF OUTCOME IN PATIENTS WITH CHRONIC RENAL FAILURE

Christian Combe;
Hôpital Saint-André, Bordeaux, France.

Patients with chronic renal failure have a lower quality of life with a higher morbidity and mortality than the general population. Numerous studies have highlighted the high prevalence of malnutrition in these patients either in the predialytic stages or in end-stage renal disease. Evidences of malnutrition are: decreased intake of calories and proteins, altered anthropometric measures and body composition, decreased serum levels of nutritional proteins such as albumin and prealbumin and of other biochemical variables such as cholesterol and transferrin. Most of these parameters have been shown to be predictive of outcomes, mainly in patients treated by haemodialysis or peritoneal dialysis. Inflammatory markers such as C-reactive protein are frequently elevated in this population and are associated with malnutrition and increased cardiovascular morbidity and mortality. The association of malnutrition, inflammation and atherosclerosis defines the so-called MIA syndrome. Therapeutic strategies can be specific for malnutrition, inflammation, or both. Malnutrition may be prevented by appropriate dietary intake, through dietetic counselling and nutritional support, either enteral or parenteral. Its correction requires further efforts which may be hampered by inflammation: chronic inflammation may result from identifiable causes such as chronic infection, but in many cases, no specific factor will be found. The prevention, detection and treatment of malnutrition requires a multiprofessional approach of all care givers including physicians, dietitians, nurses, and social workers.

A WORLD PERSPECTIVE ON RENAL CARE: THE CHALLENGES OF PREVENTION AND TREATMENT

John Dirks;
International Society of Nephrology, Toronto, ON, Canada.

The International Society of Nephrology has developed a major global nephrology outreach program through its Commission for the Advancement of Nephrology (COMGAN). This year, COMGAN will have linked meetings in 48 countries for 11,000 healthcare professionals. We would like to extend this more fully to the whole renal care team.
Over one million patients are on haemodialysis worldwide. Another 300,000 are on Peritoneal Dialysis and the same number have received transplants. Over one million die each year from kidney disease. Patient demands for Renal Replacement Treatment (RRT) are increasing at 7-15% per year, most rapidly in developing countries. Dialysis costs are rising due to the availability of pharmaceuticals such as erythropoietin. With the current rise in Chronic Kidney Disease (CKD) due to diabetes, hypertension and immune diseases, seeing and treating the patients early in clinical practice is vital. Evidence based verification of interventional measures to delay, slow or even remit CKD has created opportunities to slow intake into RRT programs. In the Third World, prevention of CKD is the only hope.
To implement its global mission of prevention, ISN COMGAN has gathered the world's leading experts and developed strategies for effective prevention programs. Prevention courses are held as components of meetings or as whole meetings. This allows assessment of local treatment of chronic and acute kidney disease. Examples will be given of COMGAN's experience and knowledge about nephrology in the developing world and of the prevention research programs being initiated in many international sites.
There are opportunities, challenges and solutions for effective CKD prevention programs. This could result in a 30% decrease in CKD and a levelling off of dialysis intake. A call to action to delay and prevent CKD is a challenge to EDTNA and ISN.

CLINICAL PRACTICE GUIDELINES: IMPLICATIONS FOR PRACTICE

Bina George;
National Kidney Foundation, New York, NY, USA.

The U.S. National Kidney Foundation Kidney Disease Outcomes Quality Initiative (NKF-K/DOQI) provides evidence-based clinical practice guidelines developed by volunteer physicians and health care professionals for all stages of chronic kidney disease (CKD) and related complications, from diagnosis to monitoring and management.The implications of adhering to the guidelines are to improve the quality of care and outcomes for all individuals with CKD.
The publication of the Clinical Practice Guidelines for Chronic Kidney Disease: Evaluation, Classification and Stratification marked a milestone in the evolution of clinical practice guidelines and the delivery of care in nephrology. Specifically, these guidelines defined chronic kidney disease (CKD) and classified its stages, irrespective of underlying cause; evaluated laboratory measurements for the clinical assessment of kidney function; associated the level of kidney function with systemic complications that develop during progressive kidney disease; and stratified the risk for loss of kidney function and development of cardiovascular diseases in CKDTo date the NKF has launched nine sets of K/DOQI guidelines:

- *Hypertension and Antihypertensive Agents in Chronic Kidney Disease (2004)*
- *Bone Metabolism and Disease in Chronic Kidney Disease (2003)*
- *Managing Dyslipidemias in Chronic Kidney Disease (2003)*
- *Chronic Kidney Disease: Evaluation, Classification and Stratification (2002)*
- *Treatment of Anemia of Chronic Renal Failure (2001)· Vascular Access (2001)*
- *Hemodialysis Adequacy (2001)*
- *Peritoneal Dialysis Adequacy (2001)*
- *Nutrition in Chronic Renal Failure (2000)*

There is a clear need to develop a uniform and global public health approach to the worldwide epidemic of CKD. It is to this end that a new initiative Kidney Disease: Improving Global Outcomes (KDIGO) has been established. It stated mission is to "Improve the care and outcomes of kidney disease patients worldwide through promoting coordination, collaboration and integration of initiatives to develop and implement clinical practice guidelines."

PERITONEAL DIALYSIS ACCESS: CURRENT PRACTICE IN EUROPE

Ram Gokal;
Manchester Royal Infirmary, Manchester, United Kingdom.

Several catheters have been designed to minimize the various complications of peritoneal access. Catheters for chronic peritoneal dialysis have a variety of intraperitoneal designs, physically combined with a number of extraperitoneal designs. The double-cuff, straight Tenckhoff catheter is still the most widely used because it seems to satisfy the needs of most patients. The swan-neck catheter has become the second most popular catheter, with promising survival times for the device when compared to other types. It is important to stress that there is no hard evidence available to recommend discarding the use of any type of catheter.
Implantation method. Implantation must be performed by a competent and experienced team. Although there are now six techniques of catheter implantation there is no indication that anyone is superior (Surgical insertion, blind catheter insertion, Seldinger and peel-away sheath, peritoneoscopic insertion, the swan-neck presternal catheter, Moncrief and Popovich technique).
Catheter Complications. These include catheter obstruction (can be managed by fluoroscopy, guided wire manipulation or laparoscopic surgery), dialysate leaks and genital oedema, and catheter infections. Advances in catheter knowledge have made it possible to obtain access to the peritoneal cavity safely and to maintain access over an extended period of time. Catheter-related infections remain a major problem, solutions for which are being actively researched. Nevertheless, the successful outcome of a catheter is very much dependent on meticulous care and attention to detail. Adherence to the principles of catheter insertion and subsequent management and care remain the cornerstone of successful PD access.

DEVELOPMENTS IN PERITONEAL DIALYSIS FLUIDS

Ram Gokal;
Manchester Royal Infirmary, Manchester, United Kingdom.

The 'old' PD solutions are associated with several bio-incompatible and metabolic side effects. Newer solutions, however, focus on improving outcomes and the long-term viability of the peritoneal membrane by improving the bio-compatibilty of the solutions. Newer PD solutions now available are:
Icodextrin: Icodextrin is a glucose polymer. It exerts a colloidal rather than crystalline osmotic pressure to effect a sustained ultrafiltration (UF) profile that is beneficial for long dwells in CAPD and APD. It is especially useful in high transporters and UF failure.
Amino Acids: The effects of amino acid solutions on nutritional state is still not clearly established. Some, but not all studies, show a benefit when they were used in malnourished patients Indications for their use are to provide a protein source in individuals whose intake is limited and to minimise glucose exposure.
Modified Dialysis Solutions: Glucose degradation products, produced during heat sterilization, are considered too toxic to the peritoneal membrane. The recent development of two/three chambered bags permits separation of glucose from other solution components, allowing glucose to be sterilized at a lower pH than is possible in single chamber bags.
PD fluid buffers: The introduction of bicarbonate solutions into clinical practice provides for a more natural buffer. There is no evidence that bicarbonate solutions benefit patients in terms of peritoneal transport and preservation of peritoneal membrane integrity. However, those patients who experience pain on infusion of PD fluid related to pH and lactate, have been shown not to experience pain with bicarbonate and bicarbonate/lactate solutions.

THE IMPACT OF ACUTE RENAL FAILURE ON THE OUTCOME OF THE CRITICALLY ILL PATIENT

Eric Hoste;
Ghent University Hospital, Gent, Belgium.

Intensive Care Unit (ICU) patients with acute renal failure (ARF) who are treated with renal replacement therapy are amongst the most severely ill in the ICU and incur therefore a considerable amount of resources and costs. The median ICU stay is generally over 10 days, compared to a median ICU stay of 2-4 days for general ICU patients who are not treated with renal replacement therapy. In addition, mortality in ARF patients who are treated with renal replacement therapy varies between 28 and 82%, depending on the patient population studied, and is invariably more than 5 to 10 times higher than that of patients without ARF. There is also increasing evidence that ARF itself causes mortality, in other words that "patients die of, and not with ARF". This has been convincingly demonstrated in patients with less severe forms of ARF, such as contrast nephropathy in hospitalized patients or renal dysfunction after cardiac surgery, but also in ARF patients who were treated with renal replacement therapy. Suggested complications that may contribute to the extra mortality associated with ARF are volume overload, acidosis and accumulation of uremic retention products leading to numerous adverse effects. In addition to that, adequate dosing of drugs poses a challenge in ARF patients. Pharmacodynamics and pharmacokinetics may be altered at every level, often resulting in sub-optimal dosing or toxicity of drugs.

TECHNICAL ASPECTS OF WIRELESS TRANSMISSION OF DATA

Jan Olav Høgetveit;
Rikshospitalet, Oslo, Norway.

Wireless connections are starting to replace communication-cables in society, and this evolution is now entering the medical room. Interference between units equipped with wireless communication units is a well-known phenomenon, and special precautions should be taken to avoid harmful interference with other medical equipment. We introduced wireless connections at the National Hospital of Norway by mounting a WLAN (Wireless Local Area Network) communication device to our dialysis machine. Dialysis machines are presumed to be sensitive for interference, and it was important to go through preparatory work in order to map possible interference risks with the relevant medical equipment. Mobile phones are one of the major contributors to electromagnetic noise in daily life, and we decided to expose selected equipment to electromagnetic radiation from a GSM base station. Measurements of the electromagnetic radiation from the GSM base-stations were made, and an electromagnetic field intensity of up to 25 V/m in pulses were measured one meter away from the GSM-base station antenna. The medical equipment was operated by highly skilled personnel, and was moved into the electromagnetic field of the GSM base-station. Any discrepancy from the normal functionality was observed according to the ANSI C63.18-1997 standard. None of the chosen devices showed significant dysfunction when operated in the electromagnetic field, compared to normal surroundings. Some minor effects could be observed for some measuring equipment like an EKG-monitor and an ultrasound instrument, but these effects were quite harmless. All things considered, wireless data transmission seems to be a good alternative also for medical environments.

NEW RECOMMENDATIONS FOR RENAL BONE DISEASE - CAN THE GOAL BE ACHIEVED IN THE FUTURE?

Preben Joffe;
University of Odense, Odense, Denmark.

Disturbances in mineral and bone metabolism are common among patients suffering from chronic kidney disease (CKD). These derangements are associated with increased mortality and morbidity for which reasons a clinical action plan is high priority. The newly published American guidelines on bone metabolism in CKD (K/DOQI) are a well founded attempt to come up with practical guidelines on renal bone disease. However, only one third of the one hundred and eleven recommendations are evidence based. Nevertheless, these guidelines cover 16 different aspects of renal bone disease including, calcium and phosphate metabolism, the appropriate phosphorus and PTH levels according to the stage of CKD, guidelines for the use of phosphate binders and vitamin D analogues, recommended dialysate calcium concentrations, guidelines on parathyroidectomy as well as recommendations for the treatment of bone disease in kidney transplant recipients among others. However, some of these guidelines are difficult to fulfil in the clinical setting for reasons to be discussed.

AQUAPORINS IN PERITONEAL DIALYSIS TREATMENT

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Low molecular weight osmotic agents, such as glucose induce ultrafiltration through peritoneal water channels, especially aquaporin-1. These are mainly located in the endothelial cells of peritoneal capillaries and venules. The water transported through these channels is free of electrolytes and solutes (free water transport) and can be assessed by the decrease in the D/P for sodium that occurs during the initial phase of a hypertonic (3.86%/4.25% glucose) exchange. When a 1 hour exchange is done (short PET) the magnitude of free water transport can be calculated by subtracting the sodium coupled water transport from the total ultrafiltered volume. Using this technique the value for free water transport averages 35% of total ultrafiltration.
Long-term PD can lead to the development of UF failure. This is most often associated with the so-called fast transport status, i.e. high D/P ratios or mass transfer area coefficients (MTAC) of low molecular weight solutes, such as creatinine. It leads to high absorption rates of glucose and consequently to a rapid decrease of the osmotic gradient. A multicenter study in 55 PD patients treated for more than 4 years showed UF failure in 35% of them. A high MTAC creatinine was present in 60% of them, a high lymphatic absorption rate in 30% and impaired free water transport in 60%. The latter is higher than the 26% found in the general PD population. This impairment of free water transport suggests deficient aquaporin-1 function. Calculation of the peritoneal reflection coefficient for glucose (mainly determined by channel-mediated water transport) showed it to be significantly lower in long-term patients with UF failure (0.0025) than in those without this complication (0.034).It can be concluded that more than one third of ultrafiltration occurs through aquaporins. Impaired aquaporin function is one of the causes of UF failure, especially in long-term PD patients.

DISINFECTION PROCEDURES FOR WATER TREATMENT IN HAEMODIALYSIS: NECESSARY EVIL OR IMPROVING TREATMENT QUALITY?

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Within the last decade microbiological requirements on fluids for haemodialysis have become stricter. It is no longer only the final product (haemodialysis fluid) that is considered to be important. To achieve and maintain optimum treatment quality the complete process of producing ultra-pure water for haemodialysis must be managed by the operator of a Haemodialysis clinic. On the manufacturer's side that includes considerations on the design of the system. On the operator's side standard operating procedures must be defined to maintain quality. Safe, easy and inexpensive disinfection procedures for water treatment systems have become a key factor for intelligent system design.
The talk will give an overview about common disinfection procedures for water treatment systems and will compare effectiveness, advantages and disadvantages of each procedure. Important design considerations will be highlighted and their effect on water quality will be reviewed. That will include a comparison between most common materials in water treatment and distribution systems and their suitability for frequent disinfections. It will be discussed how far pharmaceutical guidelines for ultra-pure water systems as well as validation procedures for system disinfection can be adapted to Haemodialysis needs.

NEW FACETS OF ERYTHROPOIETIN TREATMENT IN CHRONIC KIDNEY DISEASE PATIENTS

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Erythropoietin (EPO) is a haematopoietic growth factor hormone responsible for proliferation, maturation and differentiation of the precursors of the erythroid cell line. Erythropoietin is produced by the kidney and to a lesser extent by the liver; thereby anaemia is common in patients with renal failure, primarily due to reduced renal mass and lessened EPO production. The importance of EPO and its efficacy in correcting anaemia is well established in chronic renal failure patients, both in patients on maintenance haemodialysis and peritoneal dialysis.Accumulating evidence shows that EPO is much more than just an erythropoietic hormone. Recently it was found that EPO exhibits non-erythropoietic properties. Receptors to EPO (EPO-R) were described on nonhaematopoietic cells including neuronal cells, brain capillary, placental and umbilical vein endothelial cells. The expression of EPO-R on neurons and glial cells under hypoxia suggest a potential neuroprotective role for EPO in the brain and in conditions associated with neuronal damage. Human, rat and mouse kidney cells were found to express functional EPO-R, supporting a renoprotection role for EPO. New non-erythropoietic functions of EPO were suggested by our laboratory: immuno-modulating properties enabling higher protecting anti-HBS titers in renal failure patients following Engerix vaccination; peripheral nervous system neuroprotection properties on uremic polyneuropathy mediated through a novel EPO-R on peripheral nerves; and EPO action on polymorphonuclear leukocytes (PMNLs) as an antioxidant and anti-inflammatory hormone. An EPO-R on PMNL membrane mediates this effect, including PMNL in the list of target cells for EPO. As endothelial dysfunction precedes atherosclerosis by years, endothelium protection by EPO illuminates a new role for EPO as a potential cardio-protective hormone preventing endothelial injury. Altogether there is no doubt today, that by being a multifunctional trophic factor, EPO is much more than a haematopoietic factor, having additional beneficial actions with systemic functions.

CUSTOMISING OF HAEMODIALYSIS FLUIDS

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The pilot phase of the European Practice database project in 2003 showed that there is a wide variation in the customisation of dialysis fluid in haemodialysis units. In the 119 units surveyed, the number of different acid concentrates used varied from 1 to 16 (with a median of 3 in Northern England and Northern Italy and 6 in the Czech Republic).
While the levels of sodium and bicarbonate in the dialysis fluid can be adjusted using the settings on the dialysis machine, the levels of potassium, calcium, magnesium and glucose depend on the composition of the acid concentrate. There are advantages in using a single concentrate: stock control is easier, less storage space is required, bulk buying is more economical (especially when using central delivery systems) and there is no risk of a patient receiving the wrong fluid. There are also arguments for adjusting the levels of electrolytes and glucose in the dialysis fluid to suit the physiological needs of the patient. This presentation will review the costs and benefits of customising dialysis fluid for haemodialysis.

THE ROLE OF DIET IN HYPERTENSION

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Hypertension is the commonest chronic medical condition in the developed world. High Blood Pressure (BP) increases the risk of cardiovascular, cerebrovascular and renal failure processes and events. Hypertension, alongside with vascular disease and Diabetes Mellitus are the main determinants of chronic renal failure in Europe.71% of the patients with diabetes type II suffer from high blood pressure. Hypertension as one of the main cardiovascular risk factors is very prevalent and is the first cause of death in patients with renal failure. Controlling blood pressure is of great importance both in the general population as well as in patients in all stages of renal disease, (pre-dialysis stage to end-stage renal disease- renal replacement therapy (RRT): haemodialysis, Peritoneal dialysis and renal transplant). Altering patients' dietary habits by restricting sodium and fat intake and adopting a healthy dietary behaviour with a diet high in low-fat dairy products and fibre, including fruits and vegetables, would be worthwhile in order to control hypertension and is a challenge to all health care providers. Long-term health benefits will depend on the ability of people to make long-lasting dietary changes. Nursing plays an active role in changing dietary behaviour, giving advice on healthy food, detecting, evaluating and treating hypertension.

PRESERVING HAEMODIALYSIS ACCESS

Volker Mickley;
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Adequate haemodialysis therapy is crucial for patient survival in end-stage renal failure, and is possible only in patients with a well-functioning vascular access. Access surveillance plays a pivotal role not only for the preservation of vascular access but also for the quality and duration of the patient's life. With consequent access surveillance impending complications can be detected early enough to perform a timely and planned intervention based on the results of adequate imaging procedures.
Once access thrombosis has occurred, it should be treated urgently in order to prevent implantation of a central venous catheter for haemodialysis. In autogenous fistulae preoperative clinical examination and colour-coded duplex-sonography help to identify the causative stenosis, whereas in grafts on-table angiography immediately after surgical or interventional declotting is mandatory. Correction of the causative stenosis is an integral part of any declotting procedure. Access infection must be taken very seriously, because it can result in major bleeding and septic complications. Immediate hospitalization, adequate antibiotic treatment and consequent surgical intervention often resulting in access abandonment are the only means to lower the otherwise high mortality rate.
In the majority of patients with (pseudo-)aneurysm or peripheral steal syndrome, adequate preoperative imaging and careful planning of the procedure together with skillful surgical technique will allow for correction of the sometimes complex vascular pathology and at the same time result in preservation of access function.

THE COMBINED SURGICAL AND ENDOVASCULAR APPROACH TO VASCULAR ACCESS PROBLEMS

Volker Mickley;
Stadtklinik Baden-Baden, Baden-Baden, Germany.

Thrombosis is a common complication in arteriovenous access for haemodialysis. In most of the cases, one or more stenoses can be identified as the cause(s). Declotting should be performed urgently in order to prevent implantation of a large bore haemodialysis catheter. Correcting the stenosis is an integral part of any declotting procedure. Surgical bypass, patch or balloon angioplasty with and without stent implantation can be used.
In autogenous arteriovenous access studies comparing the relative values of surgical and interventional declotting procedures and comparing the different options to treat a stenosis are lacking. From recently published surgical and interventional series, however, it can be deducted that at least the most frequent type of stenosis (located in the vein closely to the arteriovenous anastomosis) is better corrected surgically by suturing a more central new anastomosis. Thus there is little room for endovascular procedures in thrombosed arteriovenous fistulae.
Haemodialysis access grafts are implanted when an autogenous arteriovenous access cannot, or can no longer, be created due to hypoplasia or exhaustion of superficial arm veins. Therefore when a graft fails any procedure appropriate to preserve the venous system should be preferred to an operation potentially causing further damage to it. From this view local correction of a stenosis with patch or balloon angioplasty should be preferred to surgical bypass whenever possible. For haemodialysis patients with a thrombosed access graft the endovascular surgeon would be the ideal partner, because following Fogarty catheter thrombectomy and on-table angiography he is free to choose the best interventional or surgical treatment option depending on the site and the extent of the obstruction.

HOW IMPORTANT IS NUTRITION?

Franca Pasticci;
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Many studies have showed that malnutrition is very common in patients with chronic renal failure and remains one of the major causes of death in this population.
Nutritional status is normally defined as the result of the introduction, absorption and utilisation of nutrients. This physiological definition is particular useful in the differential diagnosis of malnutrition, but is not used often. This is the reason for why we will use an operating definition based on the utilisation of nutrients. In this definition the nutritional status is the result of the three variables: body composition, energy balance and body function. These variables can be used in the clinical setting to evaluate the nutritional status and its relationship with health status.
During chronic renal failure there may be a modification of body composition. The body weight (BW) is the result of total body water (TBW), Muscle mass, mineral mass, glycogen and fat mass. The sum of total body water, bone, muscle mass and glycogen stores is otherwise called fat free mass (FFM). Studies on the body composition on patients with chronic renal failure showed that the total body water normally increases due to the expansion of the extra cellular water (less of intra cellular water and a decrease in the individual's body protein, mineral and fat masses.
Energy balance is the difference between intake and energy expenditure. For patients with chronic renal failure their intake of protein and energy progressively decreases. The total energy expenditure of an adult is the result of basal metabolism, thermic effect of food and physical activity. Studies on metabolic requirements of patients with CRF showed that Basal metabolism, thermic effects of food and physical activity do not differ from those of healthy subjects. The requirement of energy for these patients is fixed on 35 kcal/kg/IBW/d or 30-35 kcal/kg/IBW/d for older subjects. This will ensure a positive nitrogen balance in most cases.Alterations of body functions during chronic renal failure are very numerous. Chronic renal failure is not only a disease of the kidney but also affects the whole body composition.

THE FUTURE OF DIALYSIS MACHINES

Hans-Dietrich Polaschegg;
Köstenberg, Austria.

Fifty years ago, the initial challenge for technologists was making dialysis machines from components used for completely different purposes. The first generation was followed by machines employing adapted components and protective systems to decrease the likelihood of fatal accidents. The development of machines that were solely controlled by mechanical parameters was finished when precise ultrafiltration control became the state of the art. Soon the dialysis community became aware that this did not solve frequent intradialytic, interdialytic and long term medical problems. Based on various hypothesis new technologies were developed to reduce frequency and severity of intradialytic problems apparently related to the short dialysis time of typical 3 time 4 hours per week which is 7% of the continuously working natural kidney. Today we become aware that most of these new methods have neither improved patient survival nor have improved patient well-being but have made machines considerably more complicated compensating the effect of the much improved reliability of electronic and mechanical components.
Considering the positive reports of patients and medical staff about daily dialysis, future developments may be based on the humble insight that physiology cannot be replaced by technology. The result may be simpler machines that allow more frequent but still affordable treatments in the patient's home and in the clinic.

RENAL REPLACEMENT THERAPY IN CENTRAL AND EASTERN EUROPE - PAST, PRESENT AND FUTURE

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Renal replacement therapy (RRT) is the great chance for patients with end-stage renal diseases (ESRD). For many years both main RRT modalities,: dialysis and renal transplantation were underdeveloped in the majority of Central and Eastern European (CEE) countries. This was caused mainly by ineffective economies and insufficient amount of resources in the health-care budget .The situation was changed after political and economical liberation at the beginning of the 1990s. During the last 12 years the total number of patients on RRT increased in CEE countries nearly three fold. In some countries like Poland this increment was even more dramatic, (nearly five fold). Progress of RRT was not only quantitative but also qualitative. Step by step new equipment was introduced into the majority of countries, enabling the performance of modern technologies (bicarbonate dialysis, sodium programming, controlled ultrafiltration, haemodiafiltation, etc). Simultaneously dialysers were produced from more biocompatible materials and are more widely used. Peritoneal dialysis starting from very low figures (1 - 2% of total population dialysed) was used more widely, is now up to 10 - 11% in some countries. Nowadays erythropoietin is the recommended treatment for renal anemia and is commonly used in RRT patients. Also the number of renal transplantations is increasing year by year and both the immunosuppresive regimens and the results of this procedure are comparable to other more developed countries. Unfortunately this progress was not unequivocal in all countries of the CEE region. Especially in Russia and post-soviet countries (Byelorussia, Ukraine) development of RRT is still not satisfactory. Summarizing it is necessary to underline that in gross majority of CEE countriessubstantial progress in RRT was noted achieving rate observed in more economically developed countries. Nevertheless there are still countries where further activity in this subject is necessary in the nearest future.

ORGAN DONATION IN A MATERIALIST WORLD: THE FUTURE

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In a world chronically short of organ donors, the strict criteria of mandatory altruism as a basis for donation is being challenged. The reasons for this include the annual reduction of that proportion of waiting-list patients who get to be transplanted, the increase in the use of marginal donors, and the recent observation that living unrelated kidney donations give as good a chance of survival to the recipient as related donations.
The idea of incentives to donate raises moral and societal hackles. "Catch-all" anti-sales legislation, widely adopted in the west, forbids organ donation if it would result in material benefit to the donor. Yet the legitimate expectations of potential recipients remain unfulfilled. New models for incentives (short of sale on the open market) have appeared. To foster more willingness to encourage more cadaveric donors, it has been suggested that a "real" donor's estate could benefit from a sizable tax break, or that an enrolled donor should be given some sort of priority if he/she needs a transplant. Incentives for living donation, other than "kidney-exchange" between ABO-compatibles live donor/recipient pairs, is too similar to commodification to be contemplated currently. In future I believe there is progress to be made in de-commodification of the donor act. This could be achieved in law by separating the organ itself (for which no material benefit may accrue), from the act of donation and its inevitable pain and inconvenience (which could attract monetary compensation).
Future developments in donor recruitment may well invoke expansion and implementation of these principles.

REFORMS IN NURSING EDUCATION ACROSS WESTERN EUROPE: FROM PAST EXPERIENCES TO FUTURE CHALLENGES

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The overall aim of this research was to provide a comprehensive outlook on nursing education reforms enacted in Western Europe in the last three decades. The specific aims of the analysis were to: (a) describe the current trends characterising reforms in nursing education across Western Europe; (b) examine the difficulties, and concerns arising along the current changes and reforms; and (c) point out questions, lessons, and potential directions in meeting future challenges and demands.
A critical analysis of scientific literature and policy documents indicated that two major phases of reform were initiated in nursing education over the last three decades. The first phase (geared at creating a unified European platform of solid pre-registration programs) was largely completed, contributing significantly to the harmonisation of qualifications among countries. In contrast to the unity achieved via this phase of reform, the second phase (predominantly geared at integrating nursing programmes into higher education institutions) resulted in a notable variation among existing structures, levels of education, duration of studies, and the degrees awarded. A striking similarity exists, however, with regard to the difficulties and concerns appearing in the various Western European countries implementing the second phase of the reform. Three sorts of difficulties were found to emerge repeatedly in the reforming contexts: the socialisation of nursing faculty members into the higher education settings and towards their new roles; the competencies held by graduates of pre registration programmes; and the content and structure of the nursing curriculum. These difficulties and future questions, lessons, and potential directions are further discussed in the presentation.

FAT HORMONES AND OBESITY IN RENAL PATIENTS: IS BIGGER BETTER?

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An alarming increase of obesity is observed in our current industrial society, which promotes fast-food restaurants and sedentary life-style. The consequences of obesity such as the metabolic syndrome, type 2 diabetes and cardiovascular diseases are well known. Obesity also leads to serious renal consequences including glomerular hyperfiltration and the development of focal segmental glomerulosclerosis. These effects appear to be independent of confounding factors such as hypertension and/or type 2 diabetes. A specific pathophysiological role for the adipocyte hormone/growth factor leptin in inducing renal fibrosis and in regulating vascular tone has been proposed. Furthermore, obesity is an important risk factor for the progression of IgA nephropathy and is associated with an enhanced risk of chronic graft dysfunction after renal transplantation. Conversely, overweight patients with various chronic renal diseases experience a significant reduction in proteinuria after moderate weight loss. Unexpectedly, obesity even extreme, is associated with better survival and decreased cardiovascular morbidity in the dialysis population. The nature and pathophysiology of this "reverse epidemiology phenomenon" is challenging. Competition between elements of "overnutrition" with those of "malnutrition", which play a dominant role in this particularly vulnerable population is a potential explanation. Survival bias and the "malnutrition-inflammation complex syndrome" may be more specific etiologies. A potentially angio-protective role for adiponectin, a newly described fat-secreted protein whose plasmatic levels are abnormally high in obese patients with end-stage renal disease, needs to be investigated. Emerging research in this "fat hormone area" is expected to provide new avenues for the prevention and treatment of renal diseases.

WHAT CAN BE DONE TO IMPROVE COLLABORATION BETWEEN RENAL UNITS AND PRIMARY CARE TEAMS?

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This paper describes the way in which patient outcomes can be improved through collaboration between renal units and primary care teams. Diabetic nephropathy is the cause of ESRF in 18% of new patients in the UK requiring dialysis (UK Renal Registry, 2002), although there is large variation across Europe, with some countries reporting up of 40% of new patients on dialysis with diabetes (ERA-EDTA Registry Report, 2002). The reason for the large variation is unclear, but it could be because there are differences in the way in which patients are cared for and managed at primary care level. This paper will describe the ways in which members of the renal care team can collaborate with members of the primary care team to prevent and manage diabetic renal disease in the community. The author will describe a research study that is developing a patient-centred education programme in primary care, which may have benefits in controlling the parameters that delay the deterioration of renal disease. It could be argued that one of the best ways to effectively manage early diabetic nephropathy is to empower patients with knowledge of their condition and likely outcomes. Alongside this educational programme for patients, there can also be education of family doctors and community nurses by members of the renal team.

CROSSING BORDERS IN ORDER TO IMPROVE: LOW DONATION NUMBERS AND HOW TO IMPROVE

Frank Van Gelder;
University Hospital Gasthuisberg, Leuven, Belgium.

Transplantation has become the victim of its own success. Excellent survival data have caused increased referred patients on waiting lists. Organ shortage remains the most important obstacle to the further expansion of transplant programmes around the world. Organ shortage directly determines waiting time and mortality on the waiting list. Moreover some patients are excluded, even with indications that could be included if enough organs were available. Access to this scarce resource can be optimised, if systems designed to increase awareness of the value of organ donation and the optimal detection of potential organ donors, are put in place. In a time where the number of potential brain death patients are decreasing, it is unacceptable that donors are lost due to under detection, underreporting and logistical problems. Optimal legal systems, optimal training and awareness of medical teams in charge of the donor, expanded donor criteria, promotion of the need for live donation and non-heart-beating donors are seen as the solutions to optimise low donation numbers. In detail, all of these elements show their specific benefit to the donor pool and need to be further explored and optimised in the battle against mortal organ shortage. All attention should therefore go to analysis of reasons why donors are not referred.
Transplant medicine is a well accepted therapy for these patients with excellent results. Without sufficient organ supply on a long term, transplantation is compromised being the only accepted therapy for patients with end stage organ failure.

PAEDIATRIC REFLECTIONS

Grainne Walsh;
Guy's Hospital, London, United Kingdom.

This year as we celebrate the 50th anniversary of the first kidney transplant we continue to acknowledge the enormous scientific, medical and nursing advances that have occurred during this time. It is difficult to imagine that as recently as forty years ago children with end stage renal disease would have died as the lifesaving treatments of dialysis and transplantation were still in their experimental stage. As with any experimental or new therapy, in a desperate situation parents were overjoyed when renal replacement therapy was introduced for their children and in line with healthcare policies, societal and parental expectations of the era they were left very much on the sideline. Recent research however has shown us that parental and family experiences, both positive and negative can affect their children's acceptance of the situation and compliance to treatment regimes.
This talk will reflect on past experiences identifying present and future challenges and will offer strategies for facing these challenges.So what challenges are being referred to?

1. To address the impact the parental and family experience has on the paediatric transplant recipient.
2. To minimise the risk of graft failure during adolescence and young adulthood,
3. To improve the long-term wellness of the paediatric transplant recipient

As specialist renal nurses we can have a profound effect on individual patients, in my case, children and their families. This talk aims to demonstrate this in relation to post transplant issues such as family support, education, adherence to treatment and adolescent care. It is through reflection that we can build on the past and challenge the future to be a better place for the children and families in our care.

RENAL FAILURE, WHERE DOES IT END?

Peter Wesselink;
Verpleeghuis Slotervaart, Amsterdam, Netherlands.

In 'verpleeghuis Slotervaart', a nursing home in Amsterdam, the Netherlands, we have four beds for residents with end stage renal failure on peritoneal dialysis, in cooperation with four dialysis centers in hospitals (two academic, two general). Reasons for admission are the need for 24 hour per day care or rehabilitation without an indication for treatment in hospital. The patients have multiple co-morbidity like diabetes, cardiovascular disease and frequently neuropsychological disorders. Prognosis is often poor.
A multidisciplinary team makes a care plan. This team is formed by a nursing home general practitioner, nursing staff, physical therapist, occupational therapist, psychologist, social worker, speech therapist, spiritual counsellor and an activity professional. Decisions in the end of life are often difficult. Medical, ethical, cultural and personal factors are all of influence on this process. It is important to know at an early stage what the patient and his family want and what their expectations of the terminal phase are. Therefore communication on a regular basis is necessary. Multidisciplinary palliative care ensures that the process of dying can be optimized.

Corporate Education

TIMELY MEASURES TO ACHIEVE DIALYSIS TARGETS

Gambro

By the term dialysis dose we refer to how effectively the body is cleansed from uremic solutes during treatment. Not only small solutes, like urea, need to be removed to achieve a good long-term outcome of dialysis, but also middle molecules and small proteins as b2-microglobulin. Nevertheless, urea and creatinine are the commonly used markers for delivered dialysis dose. Clinical guidelines declare what minimum urea Kt/V and creatinine clearance to deliver in HD and PD.
In HD the delivered Kt/V may be calculated from measured urea concentrations in blood samples taken before and after the treatment. As the procedure is laborious, it is typically done less frequently than desired. However, assessment of delivered Kt/V can be performed for every treatment, at no extra effort or cost. Based on on-line clearance measurements, also a forecasted Kt/V at treatment end is displayed during the treatment, making it possible to act proactively to ensure that the prescribed dose is achieved.
In PD, the treatment effectiveness depends greatly on managing an individualized fluid exchange regime. The amount of fluid instilled and the number of exchanges are important parameters in APD. It has been shown that most of the fluid is actually drained out after 6-8 minutes of drainage. Nevertheless, common practice is to continue the drain phase for another ten minutes with the attempt of draining out the complete volume. Replacing this time of "less dialysis" with more time for dialysis is a possible way of making the treatment more effective.

Learning objectives: The session aims to answer questions like:
- Which are the uremic solutes, and what dialysis dose should we strive for?
- How can the delivered Kt/V be controlled for every HD treatment?
- What may go wrong in delivering an HD dose?
- In what way may the APD drain profile affect patient compliance and clinical outcome?
- How can inefficient drain time in PD be minimized?

THE STRENGTH OF CHOICE: FOCUSING ON PATIENT NEEDS FOR OPTIMAL ANAEMIA MANAGEMENT

Hospal

As an introduction, we will review haemostasis and anticoagulation in haemodialysis. We will address the heparinized dialysis membrane rationale and discuss its capability to adsorb heparin onto a Surface Treated (ST) high-flux synthetic membrane.

We will also describe how this new generation of dialysis membrane brings about a groundbreaking therapeutic approach in the management of heparin administration for high-bleeding-risk patients.

Then in the 'Clinical & practical experience' part, we will present three clinical studies evaluating the ST membrane and detailing the types of patient populations which could benefit from reduced (or suppressed) heparin administration:

- long-term patients suffering from:
  diabetic retinopathy; cholesterol embols, chronic high bleeding risk (gastrointestinal), pericarditis, cerebral vascular accident, thrombopenia or patients on short daily haemodialysis
- short-term patients suffering from:
  acute haemorrhage, post-traumatic haematoma, catheter placement, pre/post surgery.

The protocol used to handle systemic heparin-free haemodialysis and/or heparin-less haemodialysis on a day to day basis will be described.

SALT IS THE UREMIC TOXIN TOXICITY

Nipro

Occasionally new evidence meeting stringent and costly requirements of evidence based medicine is published which may then justify the often anecdotal and certainly empirical concepts of yesteryear. Today, the importance of salt overload in End Stage Renal Disease Patients needs to be reassessed.

The observation that the ESRD long term dialysis patients maintained for years on a low salt diet from Tassin (where I had persuaded Dr Laurent to routinely use a salt restricted diet in his ESRD patients when he started in 1968 and where the best long term survival data in the world has been obtained) had a peripheral vascular resistance below that of normal controls suggested that Drug Free Blood Pressure control of hypertension in ESRD patients was obtained by a relaxation of endothelial smooth muscle.

Recently, attention has been focused on endothelial Nitric Oxide (NO) production and its inhibition by by Asymmetric Dimethyl Arginine (ADMA). The result of a reduction in endothelial NO production is the failure of arteriolar muscle to relax and consequent endothelial cell membrane damage facilitating atheroma formation in ESRD patients in association with multiple factors such as Low Density Lipoproteins, Oxidant Stress Products and Angiotensin. Increasing ADMA synthesis suggests that the major cause of death in ESRD patients could be reduced by the routine employment of a 5g salt restricted dietary intake. The failure to utilize this cost effective method of treatment is contributing to the failure of dialysis therapy to improve survival in the last 30 years.

EVIDENCE BASED ANAEMIA TREATMENT AND IMPROVED PATIENT OUTCOMES: CAN WE MAKE THE DIFFERENCE?

Roche

Specialist nurses can really make a difference in improving patient care in renal units. The accumulated clinical experience in the past decade has led to recognition that optimum treatment for achieving the best patient outcomes varies between patient groups and that treatment should have greater individual patient focus. The Roche corporate education session provides the opportunity to discuss how the renal nurse can contribute in utilising what leading renal specialists consider current best practice, for maximising patients' benefits.

Professor Gilbert Deray will review how approaches to treatment can be adapted, with particular emphasis on how to make best use of erythropoiesis stimulating agents (ESAs) in managing haemodialysis patients. This is a dynamic area of research and the presentation will reflect new developments.

Dr Donal O'Donoghue will examine how new approaches can maximise the positive impact on the lives of the renal patients by focusing on the early recognition and treatment of anaemia. Designing a more individualised approach for providing optimal patient care can maximise the benefits for the patients by improving survival in the longer term without creating a burden for the healthcare systems.

Althea Mahon will discuss the pivotal role of the specialist nurse in monitoring the application of treatment, addressing the healthcare professionals but also patient needs for education in order to ensure that maximum benefit is derived from the treatment.

The session will conclude with an interactive round table discussion of how optimal treatment approaches fit with healthcare systems. After this symposium, the specialist nurse will be able to identify and recommend changes needed in their clinic to provide the best standards of care.

Education

IMPLEMENTING NURSE PRESCRIBING WITHIN A HAEMODIALYSIS UNIT - DEVELOPING A PRESCRIBING PARTNERSHIP

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Introduction: Patients within haemodialysis units do not always have access to a medical practitioner. This may cause problems when prescriptions are required. In the UK, amendments to the law to allow the introduction of supplementary prescribing came into force in April 2003, allowing nurses with the appropriate experience, training and qualification to prescribe for their patients.
Method: Within a 14-station haemodialysis unit a prescribing partnership has been successfully established. Clinical Management Plans have been implemented for patients with reference to relevant protocols. These include adequacy, access management, anti-coagulation, anaemia management, MRSA treatment & prophylaxis, antihypertensive therapy, calcium and phosphate control and exit site or line infection.
Results: 100% of patients to date (n=78) have consented to the nurse prescribing for them. The advantages of nurse prescribing have been identified as:
A service which is more appropriate & responsive to patients individual needsFaster & more effective adjustment of regime
More appropriate use of nurses' extensive professional skills
More effective use of resources
Less travelling & consequent saving of time and costs
A holistic approach to care
Conclusion: Supplementary prescribing enhances nursing practice by empowering those who are best placed to make decisions regarding care and treatment for their patients. The patients appear confident in the ability of the nurse within the haemodialysis unit to prescribe competently. Nurse prescribing is of benefit to patient care, meeting the demands of an expanding patient population. It is recognition of the skill and experience required of haemodialysis nurse practitioners.

WORKSHOP FOR PATIENTS WAITING FOR A TRANSPLANT: OBSTACLE OR CHALLENGE?

N. Blumenthal, A. Grossbard;
Wollfson, Holon, Israel.

Patients in dialysis treatment live under a rigorous treatment regime with multiple stressors. The possibility of a transplant is at the same time a source of hope and also of frustration and anger of high levels. The issue is even more complicated by the public controversial debate regarding the subject and the sensational coverage in the media.
The unique aspect of this program is the commitment of the staff to provide continuous support during the waiting time. This period of time includes: the evaluation process for transplant and preparing the patients physically and emotionally before the transplant.
At our dialysis unit there are 150 patients: 140 haemodialysis, 10 peritoneal, of which about 25 are at different stages of the waiting list.The goals of the project are:
1. Provision of updated medical information and other relevant information.
2. Support and ventilation.
3. A public forum to discuss the arising matters. During the year 2003, six monthly meetings were conducted for 2 hours, in the hospital auditorium, away from the dialysis unit . The workshop was conducted by 2 professionals: a Transplant Coordinator a Registered Nurse with high expertise in haemodialysis care and a Senior Social Worker experienced in working with dialysis patients, their families and with groups.The workers invited 20 patients (14 male, 6 female) and their family members.The workshop was found to provide both the waiting patients and the staff with an additional effective communication tool.

EVALUATING STAFF AND STUDENT EXPERIENCES OF MULTIDISCIPLINARY CONTINUOUS PROFESSIONAL DEVELOPMENT VIA THE DISTANCE LEARNING MODE

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Context: Continuous professional development (CPD) in caring for people with kidney disease is limited in some regions of Europe. This is compounded by limited resources for course fees and the lack of study leave granted away from the clinical area for full-time courses. This is set against recommendations from national and European governments, and renal clinical guidelines concerning expectations of CPD and competency levels of renal healthcare workers.
Description: The purpose of developing the multi-mode distance-learning course is to provide professional, academic and clinical development for renal healthcare workers to ensure an evidence base underpins clinical practice. By developing a 'blended' style of computer assisted learning this enabled us to address the various clinical needs for CPD reported by renal staff and ensure that CPD delivery develops and moves with the changing needs of the clinical environment.
Results: This presentation will report on the findings of evaluative research investigating experiences of learners using the virtual learning environment, and of the staff who have collaborated in different ways in order to develop these materials. It will report on the outcomes of these learners compared to those who have been taught in traditional classroom environments. It will describe how solution focused learning was developed as a new and innovative education strategy in order to deliver evidence-based education that more realistically educates nurses for dealing with the healthcare needs of their patients.
Implications: It will give strategies and frameworks for other renal teachers to develop innovative ways of delivering learning about renal care.

SENIOR STAFF NURSE DEVELOPMENT PROGRAMME

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The educational needs of senior members of nursing staff are often not addressed. Senior staff nurses, or F grade nurses, often comment on how difficult it is to be released from a clinical area to attend teaching sessions. It was decided to develop a programme of study to help address their educational needs. Questionnaires were sent to the Senior Staff nurses asking if they would benefit from a formal education programme, and if so what topics they would like included? The questionnaires also asked nurses to list their formal education qualifications. There was a one hundred percent response rate with nurses requesting a variety of topics to be included. It was discovered that less than half of the nurses had attained either a diploma or degree. The education programme developed is called the F grade development programme, which now runs over a series of six study days in six months. The topics requested for inclusion differed greatly from those initially considered for inclusion by the curriculum developers. The topics were revised with additional clinical issues included as requested. The feedback received from the programme was very positive. Problems were often experienced releasing nurses from their clinical area due to staff sickness and annual leave. The university affiliated to the hospital has agreed to register the programme allowing nurses to gain credits on completion. The programme is now run annually.

THE DEVELOPMENT OF AN EDUCATIONAL SUPPORT TEAM IN THE RENAL FRAMEWORK

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Hospital and community renal care is increasingly provided by a variety of skill mix staff all needing educational support in order to ensure quality care and evidence based practice. Many renal units have developed into speciality directorates needing large numbers of staff. Our unit consists of five wards and two satellite units and employs about 250 carers with a variety of skills at different levels. The development of nursing specialities is seen as stimulating the growth of knowledge and the expectation of high proficiency from renal nurses has increased dramatically with the upsurge of new techniques in renal replacement therapies, medication and care delivery. With the need to maintain evidence based knowledge and clinical skills, (PREP) and the wide variety of carers employed or seconded to our unit, (NVQ health care workers, registered nurses, pre and post- registration students, foundation degree assistants and cadets) it was necessary to develop some method of co-ordinating our learning requirements. The renal education team have developed a strategy in direct response to this need. They include a lecturer/practitioner, NVQ co-ordinator, practice educator and a training and development officer. They are responsible for renal interdisciplinary education in both an academic institution and clinical practice. They provide a basis for partnership between registered staff, students and the multidisciplinary team, with an aim to promote life long learning within the renal directorate.

A BETTER QUALITY OF LIFE THROUGH EDUCATION AND EMPOWERMENT

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"Structured education and counselling of patients approaching ESRF involving the multidisciplinary team and other patients and carers should aim for the seamless entry onto RRT using the patients chosen modality.". Standard 2 in ESRF- A Framework for Planning and Service Delivery DocumentUsing this standard as a benchmark and working in collaboration with the multidisciplinary team, a pre-dialysis educational programme was created, which encompassed the biopsychosocial needs and well-being of patients. To enhance patient education, and subsequently to empower them, a therapeutic patient-centred relationship is necessary to develop, promote, and maximise their self-care skills. Eliminating the concepts of adherence and compliance allowed patients to discover and actualise personal responsibilities for their renal disease.A framework with a defined clinical pathway was negotiated and Patient Awareness Days were implemented. These meetings were patient centred, evaluated and their feedback stimulated changes including the need for an additional patient communication system. The development of a patient folder with information from each discipline aimed to bridge this gap. Small group teaching sessions were run concurrently as an outcome of the feedback. Regular multidisciplinary team meetings ensured new patients were added to the programme.The aim of this presentation is to demonstrate that a collaborative approach, which is patient centred, and regularly evaluated, should facilitate the seamless entry onto RRT using the patients chosen modality.

PATIENT EDUCATION - AN EMPIRICAL EXPERIENCE IN A UNIVERSITY HOSPITAL SETTING

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Introduction: Patient education is key to better health, particularly in relation to the management of chronic illness. Patients themselves are requesting a more active role in their health care.
Method: To improve end-stage renal failure education, a two-part multidisciplinary approach has been active since 2002. 1) A specialised educational nursing team launched a pre end-stage renal failure education program for patients and their families. 2) A renal centre was created, in collaboration with patients and their medical team, to provide peer counselling and self-help and to promote continuing education to the renal population.
Results: The pre end-stage renal failure educational program has been successful. Patients appear better prepared for end stage renal failure; demonstrating more appropriate choices for renal replacement therapy, better nutrition and "smoother" adaptation to life with renal failure. Experience with the Renal Centre shows that through active participation in the care process, individuals have learnt to reduce stress, isolation and fear. This approach allows the patient to better deal with the complications related to dialysis and transplantation. It also supports active family involvement in the health maintenance process.
Implications: This two-part, multidisciplinary approach seems to improve the care of end-stage renal failure patient. Although the long-term implications have yet to be assessed, we believe that educational programs should be included in the standards for the care of end-stage renal failure patients.

ON-GOING PATIENT EDUCATION: FROM PRE-DIALYSIS TO DIALYSIS

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The progression of chronic renal failure (CRF) to end stage (ESRF) could last many years. In modern medical institutes patients are followed-up and treated in pre-dialysis clinics, where they receive guidance concerning their health condition and treatment alternatives. However, we have observed that upon reaching dialysis, patients are still ignorant of many aspects of their condition and the dialysis treatment, which they are about to begin. Patients usually complain of not having sufficient information about their disease and dialysis treatment. This ignorance may be the result of disease acceptance difficulties and memory impairment.We have developed a special structured guidance programme for ESRF patients in order to improve patient's self-acceptance, knowledge of the treatment and its implications and encourage compliance, thus improve dialysis effectiveness.Patients included in the study are in their first half-year of haemodialysis treatment. They fill in a questionnaire and are interviewed to evaluate disease-specific knowledge and acceptance of their condition. Patients then participate in our special structured guidance programme, given during dialysis treatments for a period of two months. After this programme patients fill in the same questionnaire and are interviewed again. After an additional two-month period without guidance, questionnaires are filled in and interviews performed for the third time.This structured guidance programme is expected to improve disease-specific knowledge, health condition acceptance and treatment compliance.

A PRE-DIALYSIS CO-ORDINATOR SERVICE FOR PATIENTS WITH END STAGE RENAL DISEASE

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Introduction: A large proportion of patients with chronic renal failure begin dialysis as an emergency due to an acute presentation. Acute dialysis is costly in terms of resources and staff, and is unpleasant for patients and relatives. It is associated with high morbidity, exacerbating both the burden on the patient and available resources. Commonly patients start dialysis with little understanding of the implications of their disease and its management. For the majority of patients, this can be avoided with proper education, counselling and planning.
Aim: To improve understanding among patients and relatives - with respect to their disease and treatment options, especially dialysis. To reduce patient anxiety, to improve patient understanding and compliance, and to reduce the number of acute admissions.
Method: A designated predialysis coordinator and physician met all patients and their relatives when the GFR fell to 25ml/min. The aim of such visits was to provide information and clarify issues, particularly regarding dialysis. The problems with lack of awareness, ultimately leading to inevitable emergency treatment were addressed, and the advantages of scheduled pre-planned dialysis were conveyed.
Results: Feedback suggested that the patients and relatives felt calmer, both about the illness and the issue of dialysis. Patients reported a better feeling of control. The number of acute dialysis admissions fell.
Conclusion: Provision of a predialysis coordinator service to educate and inform patients and relatives significantly improves patient well-being, sense of control and eases the burden on hospital resources.

ESTABLISHING PATIENT PREFERENCE FOR PRE-DIALYSIS INFORMATION USING CONJOINT ANALYSIS

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Nephrology health care professionals are increasingly required to involve patients in the design and delivery of services. Providing a patient focused service is a key goal within Nephrology. Reforms in health and government policy emphasise user involvement in service design. The question whether services can be provided which reflect the expressed preferences of patients requires closer examination.Establishing a rigorous approach to gathering preferences concerning Nephrology services is essential if treatments are to be accepted by patients and their carers. The importance of patients understanding key information during the pre-dialysis phase is an important goal in pre-dialysis education. Few research studies have specifically examined the potential of designing services around specific expressed preferences from patients themselves. This study explores the technique known as Conjoint Analysis in establishing preferences for pre-dialysis information in a group of maintenance dialysis patients [CAPD & Haemodialysis] receiving dialysis for less than 1 year.
Conjoint Analysis has its origins within mathematical psychology and has been used extensively within market research. Only recently has this approach been applied to health service delivery in areas such as care of older people, cataract services, and preferences for out patient services within rheumatology care. Conjoint analysis offers a rigorous and empirical approach to understanding how preferences for services can help shape the delivery of care. Conjoint Analysis provides an innovative approach to researching how patients view services but more important provide vital feedback on levels of satisfaction with services in helping to design more patients focused approaches.

USING ACTION RESEARCH TO IMPROVE NURSE TEACHING PRACTICE

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Utilising reflexive action research, the author, as a novice nurse teacher, explored two different teaching methods as a means of improving her teaching practice. The data were collected from abstracts from the author's journal, student nurses and nurse teaching colleagues.
Through this data collection and by applying Rolfe's (1998) understanding-action-evaluation (UAE) cycle, the author gained an insight into aspects of her teaching that was affecting her ability to change her practice. This eventual understanding assisted in implementing the two teaching methods chosen. The author experienced positive changes both personally and professionally as a result of undertaking this action research process.
The author's teaching practice has now begun to change by moving from a staunch didactic approach towards a more facilitative style teaching approach. Wodlinger (1996) maintains that by exploring ones' own practice gives novice teachers a crucial head start in taking responsibility for professional growth and for accountability.
Teaching involves a lifetime process of learning. Action research can therefore assist nephrology nurses to explore ways of improving their practice to become ongoing learners.

DEAR DIARY.....

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Introduction: The stress placed on dialysis nurses in training is often made worse by the fact that there is little time for discussion and reflection during the hectic day-to-day routine in the dialysis unit. Staff-shortages, the demands of caring for very sick patients, can result in the needs of trainees being overlooked.
Aim: To allow trainees record their daily experiences, problems, questions in an orderly fashion. To give them a tool for reflection. To use the notes as a basis for weekly discussions with their instructor.
Method: A pocket-sized diary was issued to each new nurse at the start of the training period. Notes were made, during, and at the end of each working day. Once a week, away from the unit, a scheduled meeting was held between each new staff-member and their instructor. Matters arising from the diary that the trainee wished to bring up were discussed. Adequate time was set aside for reflection.
Result: An active use of language, both written and orally, stimulated thought and learning processes. Questions, impressions, ethical issues and emotions were recorded and later discussed without otherwise being forgotten. New nurses found the diary useful, not only for documenting events as they occurred, but also for looking back and seeing how far they had advanced during their training. Instructors gained valuable insights into the thoughts and problems faced by each trainee.
Conclusion: The introduction of a diary improved the learning process and environment for both trainees and their instructors.

JOINT WORKING WITH HOSPICE TEAMS - A RENAL COLLABORATIVE APPROACH

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Problem: Palliative care for patients with chronic kidney disease (CKD) who opt not to have renal replacement therapy or withdraw from treatment has in the past been limited. Renal professionals often lack the time, resources, facilities and knowledge of symptom control to provide adequate care for this group of patients.
Purpose: To utilise services and resources outside the renal field. To establish a specific renal team to link with the hospices and community palliative care teams.
Design: An activity audit was conducted, together with a timescale of ultimate outcome to determine how long a patient required a palliative team. A qualitative study of hospice teams across the county was also undertaken to gauge the range and availability of services.
Findings: Over a six-month period the renal team identified 18 patients. 12 of these patients were referred and assessed by the team who then transferred their care to the most appropriate hospice centre local to the patient.
Conclusion: Hospice centres now advise the renal team as to the most effective symptom control and drugs available. Families are able to ask for respite and community teams are now able to support patients, without the need for acute admission.
Relevance: By working with local hospice centres it is possible to utilise community palliative resources and facilities that are unavailable in the acute setting. Specialist professionals are now able to maintain quality care and deliver a high standard of palliative management.

IMPLICATIONS OF ARTERIOVENOUS FISTULA SURGERY ON PATIENT FUNCTION AND ACTIVITIES OF DAILY LIVING

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Problem: Renal patients undergo arteriovenous fistula surgery for a variety of reasons. Following surgery, there is risk of potential complications, which may effect a patient's hand use and ability to perform activities of daily living.
Purpose: To investigate implications of arteriovenous fistula surgery on patient function, identifying activities of daily living which patients report are the most effected, and the therapeutic consequences of these.
Design: Retrospective and prospective study. Twenty patients who have undergone arteriovenous fistula surgery over a 6 month period complete a qualitative activities of daily living questionnaire identifying the patient's management of activities pre and post surgery and the effect this surgery has had on their overall performance of normal activities.
Findings: This study is in progress at time of abstract submission. Initial findings indicate that a percentage of patients undergoing surgery develop complications post surgery resulting in a significant reduction in their ability to manage activities of daily living. The therapeutic consequences of this change to patient function show a need for early identification of complications and referral to Occupational Therapy for assessment and a compensatory approach to patient identified difficulties.
Conclusion: A number of patients will develop complications post arteriovenous surgery resulting in loss of hand function and a reduction in the ability to perform activities of daily living.
Relevance: Early identification of arteriovenous fistula surgery complications and appropriate referral to Occupational Therapy for compensatory therapeutic input will assist in maximizing the patient's ability to manage independently and improve their quality of life.

A NOVEL TECHNIQUE FOR MEASURING SODIUM MASS BALANCE IN HAEMODIALYSIS AND HAEMODIAFILTRATION

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Problem: Maintaining optimum sodium balance is a critical function of dialysis but mass balance studies during haemodialysis are fraught with technical difficulty and findings have often been inconclusive.
Purpose: We describe a novel method of assessment of sodium mass balance, which is independent of flow measurements.
Design: Sodium input and output were determined by accurate running measurement of concentrate weights, dialysate effluent weight, specific gravity and sodium concentration. Sodium balance was determined from the difference. Sodium mass balance was assessed in 7 HDF and 10HD patients for the first 30 minutes of dialysis without ultrafiltration. Serum and dialysis fluid sodium concentrations were measured at 10 minute intervals by an ion
Findings: There was a small but significant difference between sodium input and output ($p=0.004$). The mean mass sodium balance was 25.5 ± 31.7 mmol. It is likely that the small positive balance occurred as a result of diffusive movement of sodium from dialysis fluid to blood down a concentration gradient. There was no difference between mean sodium balance in patients on HD and those on HDF. There was a significant difference between the volume of the effluent measured utilising this technique and traditional dialysate flow rate measurements (800mls/min) ($p<0.05$).
Conclusion: These initial validation studies have shown the expected small positive sodium balance resulting from diffusive sodium transport down a concentration gradient between dialysis fluid and blood. There was no significant difference between sodium balance in HD and HDF. Traditional methods of measuring Na* mass balance utilising dialysate flow rates appear inaccurate.

HOME HAEMODIALYSIS WITHOUT A HELPER - PROBLEM OR CHALLENGE?

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The advantages for the patient in home haemodialysis are well known. Control over every day, independent of staff and transportation, personal responsibility for own health, care and treatment etc.Through talking to some patients in home haemodialysis, we experienced that having a helper had some disadvantages. The partner became the "nurse". The role changes from a couple to a patient-nurse relationship and could in the worst-case result in divorce. Some patients became passive and did not take responsibility for their situation. To avoid this and comply with patients' demands for home haemodialysis without a helper, we had to think differently to match the future.
We worked out a training-program based on home haemodialysis without a helper. During the training we discovered many individual problems, such as:
- Bleeding from the fistula after dialysis.
- Complications during dialysis
- Difficulties in reaching the machine during treatment.
- Dyslexia, reduced eyesight etc.

The difficulties that we came up against had to be dealt with as they occurred. By experience we learned to think differently to see the opportunities instead of the limitations. The conclusion is that home haemodialysis without a helper is a challenge but not a problem.

DEVELOPMENT OF THE ROLE OF DIALYSIS COORDINATOR

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Our Renal Unit is comprised of a nephrology ward, two haemodialysis units and an investigations unit.
Also in the Trust, are other areas such as cardiac and general intensive care units, coronary care unit and other wards/departments, which generate the need for haemodialysis and other forms of Renal Replacement Therapies (RRT).Now, intensive care units are trained and self sufficient in CVVH but all other aspects of RRT are the responsibility of the Renal Unit.
Previously, who planned, coordinated and delivered this RRT was on an "adhoc" basis, leading to problems and confusion in the service.
Approximately six months ago, the post of Senior Staff Nurse was developed to coordinate this delivery of RRT "outside" the main Renal Unit.
The post is a rotational post between the ward senior staff nurses, on a 3 monthly basis. The initial 6 months has evaluated very well. A questionnaire given to staff in all areas of the Trust has provided useful information about the role and how to further develop it.
Evaluation of the post has identified:
- Improved communication between renal unit and other areas.
- Improved planning and coordination of dialysis.
- Prompt identification and delivery of dialysis.
- Support for junior staff in the delivery of dialysis.

Future development of the role would enable:
- Personal and professional development of senior staff nurses
- A more structured, coordinated service.
- Improved use of resources.
- Improved communication.
- Improved quality and standards in RRT.

SHUNT SURVEILLANCE AND OCCLUSION: AN ANALYSIS OF EFFICIENCY

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Introduction: Vascular access failure is one of the greatest sources of morbidity for chronic haemodialysis patients. Prophylactic and repeated measurement of access flow may be of importance in preventing clotting.Aim of the study was therefore to analyse the effect of a shunt surveillance program on the appearance of occlusion of the vascular access.
Methods: The number of vascular access interventions (surgically and radiologically) in the period 2001 till 2003 (Transonic measurement period, TMP ; 63 patients) were compared with a reference period (RP, 1996 till 1998) during with no accessflow was measured (58 patients). All measurements were done with Transonic® and interventions according to K/DOQI.
Results: During the RP, 123 vascular access operations (0.71 per patient year) were performed because of occlusion, whereas in the TMP 58 vascular access operations (0.3 per patient year) were performed. During the TMP 298 angiographic measurements were performed (1,6 per patient year), in the RP 177. The number of extra angiographic interventions to prevent one shunt occlusion was 1.5, compared to RP. In the TMP 1652 access flow measurements were performed. In order to prevent one shunt occlusion 21 access flow measurements had to be performed.
Conclusion: By means of a shunt surveillance program (based on accessflow measurement), if necessary followed by an angiography, it is possible to reduce the number of acute vascular access occlusions. Although a shunt surveillance programme takes up a lot of time for the nursing staff the beneficial effect and reduced morbidity for the patients outweigh this effort.

IMPROVING QUALITY STANDARDS WITHIN THE RENAL DIRECTORATE

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Problem: Our Trust carried out an In Patient Survey to assess quality of care delivered to them. The survey was used to build up a detailed picture across the Trust of the patient experience in hospital. Majority of feedback was good. There were a few unacceptable issues raised regarding poor delivery of care! We called these 'Below the Line Activities'
Purpose: We needed to highlight the 'Below the Line Activiites' to all nursing staff and highlight professional accountability.
Design: We designed a poster for each clinical area with laminated pictures of the Activities. A questionnaire with an accompanying letter explaining the reasons and instructions regarding completion and return was given to each member of nursing staff. Collections of questionnaires were carried out locally by a designated person.
Findings: 104 Questionnaires were sent out and 95 returned (91% response). The majority of staff quickly acquired knowledge and within 2 weeks were aware of all Below the Line Activities, where they came from, who is responsible for delivery of poor practice. We found by encouraging a self-learning approach ensured that all staff participated in disseminating important issues relating to quality of care. It provoked a lot of discussion within the units and allowed minimal disturbance to staffing levels.
Relevance: Very time efficient and simple methods can change attitude and behaviour that has the potential to improve the quality of care delivered to patients.

STRUCTURAL VASCULAR ACCESS SURVEILLANCE: THE NATIONAL STANDARD

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Background: Dialysis centres suffer with common problems concerning the care of the vascular access(VAC); no uniformity in surveillance, no uniform training, no uniform database to measure construction, surveillance and intervention, no uniform guidelines.
Aims of the project: Our most important objective is increasing placement of AV fistula's of the forearm to European standards, decrease thrombosis by introducing international standard procedures.
Methods: The kidney foundation organised a national multidisciplinary taskforce. The taskforce defined standard procedures and made multidisciplinary guidelines/protocols for construction, maintenance and intervention of the vascular access according to international standards.
The 3 nurses co-ordinators accompany multi disciplinary task forces in 29 dialysis centres in training of staff, patient education, data collection and meetings to discuss complications and evaluate interventions.
VAC is multidisciplinary diagnosed and benchmarked. Recommendations are given and are followed by a plan of implementation.
Increasing AV fistula in the forearm is reached by: a well-defined surveillance program for early identification of imminent dysfunction, preservation of veins, preoperative diagnostic procedures, timely placement of permanent access and identification of failure to mature Effect measurements are; number and type of vascular accesses and permanent catheters, thrombosis rate, number of interventions.
Conclusion: More than 60% of all dialysis centres participate in this project with more than 2300 patients.
In 20 centres an advisory rapport is completed and the program is integrated. In 18 centres electronic data collection is organised. In 20 centres structural multidisciplinary meetings are instituted. In 21 centres structural vascular access surveillance is integrated in daily routine practice.

PERFORMING YOUR OWN "IRON-IN"

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The aim of this paper is to explain how a Renal Centre developed an Intravenous Iron administration programme for home haemodialysis patients. The unit was experiencing an increasing demand for haemodialysis spaces. This led to a greater number of patients receiving haemodialysis at home, but there was still a need for these patients to continue with their anaemia management.
The anaemia management team within the department carries out monthly monitoring for each haemodialysis patient in the hospital, community and satellite units. The result of close monitoring allows each patient to be assessed individually with regard to their Iron requirement for the month along with prompt changes in their Erythropoietin (r-HuEPO) doses.
It would appear that few dialysis units advocate the use of patients self administering Intravenous Iron sucrose and r-HuEPO therapy within the community setting. Our experience of regular administration of both products has proved to be safe and effective. This was demonstrated when our youngest home haemodialysis patient achieved a successful pregnancy, with haemoglobin levels averaging 12gr/dl throughout.
We can therefore conclude that encouraging home haemodialysis patients to administer their own r-HuEPO and iron sucrose Intravenously results in greater independence and an increase in overall wellbeing. From a unit's perspective it has led to reduction in r-HuEPO doses and in some cases haemoglobin levels have been maintained with iron sucrose alone.

ON-LINE EVALUATION OF THE DIALYSIS EFFICIENCY THROUGH BIOSENSORS

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Dialysis efficiency is commonly evaluated by the Kt/V index; levels above 1.2 improve patient's quality of life.
To achieve those levels, physicians customize dialysis prescriptions, but during treatments unexpected events may occur. This does not allow the prescription to be completely fulfilled leading to bad results. Aim of this work was to define a procedure for the on-line Kt/V evaluation and for the improvement of the depuration adequacy. Initially we increased the Kt/V estimation frequency (weekly), but cost reason (160 €/Year) and too high volumes of blood (416 ml/year), suggested to undertake other strategies. We evaluated various Kt/V monitoring systems and finally we chose the "ionic dialysance monitoring system" (DiascanTM) which measures the dialysance, strongly correlated with Urea Clearance (±10% Locatelli et al NT&D 1995).
The procedure foresaw three steps: 1) dialysance and Kt/V monitoring for each dialysis session; 2) comparison of these values with respect to the dialysis targets; 3) interventions to increase dialysis efficiency when necessary. All the data were acquired from the dialysis monitor by informatics system.
During the study (6Months) we collected 1500 sessions on 21patients: in 3 cases the data analysis suggested to restore the vascular access efficiency by surgery; in 6 cases dialysis efficiency was maintained; in 12 cases Kt/V was increased.The on-line Kt/V monitoring, together with a bimonthly evaluation of it, assures that treatments reach the prescribed target in terms of depuration.

A CASE STUDY: THE FUTURE FOR HOME HAEMODIALYSIS IS DAILY DIALYSIS BUT PREGNANCY WAS AN UNEXPECTED AND CHALLENGING OUTCOME

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Home haemodialysis has many advantages including greater independence, flexibility, and the opportunity for an active lifestyle. Daily dialysis has been reported to improve patient well being and quality of life by controlling fluid balance and reducing blood pressure. Erythropoeitin has further aided the situation by ensuring that anaemia is controlled. If home haemodialysis patients can achieve this level of well being, the potential for patients becoming pregnant should be considered.This case study describes the challenge of pregnancy in a home haemodialysis patient who was receiving daily dialysis and erythropoetin. In addition, this paper highlights the need for renal and obstetric teams to work together in order to achieve a successful outcome. Pregnancy remains risky in women who are undergoing long-term dialysis treatment but advances in dialysis and obstetrics have led to an improved success rate.

ACCESS MANAGEMENT RECIRCULATION AND BLOOD FLOWS: A CLINIC PERSPECTIVE

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The preservation of dialysis accesses is of paramount importance to patients and also to those of us who, as staff, are responsible for the assessment, care and management of these critical lifelines. Access recirculation measurements have evolved from the BUN method, which was time consuming waiting for laboratory results, to dilutional methods which yielded more immediate results. Some controversy has also developed as to the value of using recirculation as a means of assessing access function. Depending upon the frequency of testing, the instruments used, and the personnel performing the testing, recirculation results varied greatly. In our clinic we have used the Critline blood volume monitor, which has recirculation and blood flow measurement capabilities to establish an access management program that has made a significant difference to detection and intervention in our clinic goal of managing and preserving dialysis accesses.
In the realm of newer technology is the ability to do transcutaneous access blood flow measurements. This method is a non-invasive, quick and accurate method of measuring the actual flow through the access. It does not involve reversing of the blood lines and is accomplished in under five minutes in most cases. The diagnosis of whether the access has an arterial inflow problem or a venous stenosis will help the clinician in assisting the physician in determining the appropriate intervention.Recirculation and blood flow measurements assist in the complex management of patient lifelines.

ACUTE RENAL FAILURE AND HAEMODIALYSIS METHODS IN INTENSIVE CARE UNITS

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Purpose: The aim of this study was to determine and analyse the clinical course of ARF in critically ill patients requiring renal replacement therapy in intensive care unit, coronary care unit and cardiothoracic unit.
Methods: Thirty-three patients (14 male) were recruited during one year period (2002) with mean age 62 years and range 48-76 years. All the above patients admitted to intensive care units where they developed ARF and were scored using APACHE III evaluation tool. ARF based on the definition of Hou et al (Am J Med 74:243-248,1983).
Results: Renal cases (54,8%) were the most common causes of ARF. Pre-renal causes occurred in 14 cases (45,2%) and post- renal causes in 2 cases (6,4%). Septicemia (12 cases) and hypovolemia (10 cases) were the leading causes. Fifteen patients (45,4%) died while 18 (54,5%) were discharged. Four patients (12,2%) developed end stage renal failure. Multiple organ failure, intravascular coagulopathy, acute respiratory distress syndrome and diabetes mellitus were the major risk factors. Renal replacement therapy was performed as follows :in 28 continuous veno-venous haemofiltration, in 3 conventional haemodialysis and in 2 continuous veno-venous haemodiafiltration.
Conclusions: The development of ARF in the setting of an intensive care unit carried a poor prognosis and seems to represent a specific and independent risk factor. The poor prognosis can be improved if attention is paid to prevention of specific factors.

EXERCISE DURING HAEMODIALYSIS: IS IT AN INDICATOR OF BETTER QUALITY OF DIALYSIS?

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Despite the improvement of dialysis adequacy an increase in this adequacy of dialysis will always be the goal. We decided to study the possible increase in muscular circulation caused by exercise during haemodialysis session, and the expected improvement of solute clearance.
We studied seven patients (2F - 5M), with mean age 56.8y (48-67) and mean time on dialysis 71m (28-198). We studied three sessions with routine dialysis parameters and three sessions during which patients performed isometric exercises for 20min on the 2nd and the 4th hour of haemodialysis. At the beginning of each session and on every hour we measured: serum potassium, urea, creatinine, phosphorus, CPK and LDH. Mean Kt/V and mean URR were calculated in each session.
Results: 1. No problems were encountered in the exercise program; on the contrary, our patients participated enthusiastically.2. There were no significant differences in dialysis conditions, interdialytic weight, blood pressure and pulse.
3. Biochemistry values did not show significant differences between sessions with and without exercise.
4. Kt/V and URR values increased during exercise (Kt/Vex=1.4 ±0.14 vs Kt/V=1.32 ±0.15, p=ns and URRex=70±3.4% vs URR=66±4.37%, p<0.05).
Conclusions: The implementation of the exercise program was accepted with joy by our patients. We found that isometric exercise causes increase in urea clearance. We would accept a greater increase in Kt/V values with more patients. We propose an implementation of mild isometric exercises during haemodialysis, in order to increase dialysis indicators and to improve the quality of life for our patients.

ACUTE RENAL FAILURE IN PATIENTS WITH SEPSIS IN A SURGICAL INTENSIVE CARE UNIT

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Acute renal failure (ARF) is a common complication in intensive care unit (icu) patients. Although there are several reports on outcome of septic patients with ARF, there are no data regarding predisposing factors for ARF. Therefore, the incidence of ARF was investigated in 185 sepsis patients admitted in a surgical ICU during a 16-mo period. Variables predisposing to ARF on day 1 of sepsis were evaluated with univariate and multivariable analyses. APACHE II and SOFA scores were compared during a 14-d period. Additionally, the impact of organ failure on mortality was evaluated. ARF developed in 16.2% of the patients, and 70.0% of these needed renal replacement therapy (RRT). Patients with ARF were more severely ill and had higher mortality. Remarkably, serum creatinine was already increased on day 1. Creatinine more then 1mg/dl and pH lower then 7.30, both on day 1 of sepsis, were independently associated with ARF. Age, need for vascoactive therapy, mechanical ventilation and RRT, but not ARF itself, were associated with mortality. In conclusion, ARF was a frequent complication in sepsis. Sepsis patients with ARF were more severely ill and had higher mortality. Need for RRT was independently associated with mortality. A simple risk model for ARF, on basis of two readily available parameters on day 1 of sepsis, was developed. This model allows initiating specific therapeutic measures earlier in the course of sepsis, hopefully resulting in a lower incidence of ARF and need for RRT, thereby lowering mortality.

THE CLINICAL ENVIRONMENT OF HAEMODIALYSIS NURSING

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Thanks to the research performed by the American Academy of Nurses about the "Magnetic Hospitals" (concept introduced by L. Aiken), it has been possible to affirm that these hospitals are characterised by: encouragement and allowance of professional autonomy, control over practice, having better relations with other professionals, and by keeping qualified nurses that are able to put into practice their professional decision-making on behalf of the patients. These hospitals are called "Magnetic Hospitals" because of their attraction to professionals and patients.It has also been observed that in the Magnetic Hospitals the death rates are lower than in other comparable centres. The hospitals have nurses with a better job satisfaction which results in the patient treatment outcome being better.
The aim of this survey has been: to determine the degree or understanding of the haemodialysis nurses about the attributes of the practical nurse (autonomy, relations nurse-doctor, control over one's own practise and support of the organization).
A qualitative, descriptive and multi-centre survey has been made of all the professional haemodialysis nurses in this county.
The results obtained show that the perception of the haemodialysis nurses is very far removed from the one found in the other survey.
We have proposed the magnetic hospital as an instrument to encourage the professional development and the working atmosphere.

PRE-DIALYSIS INSULIN - MEETING THE CHANGING NEEDS OF THE TYPE 2 DIABETIC ON HAEMODIALYSIS

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Diabetes is the single largest cause of ESRD and our numbers have risen from 500 to 1300 in four years. Renal units must prepare for the increasing flow of diabetics into our service meeting the varying challenges they present. We have seen the need to put in place an infrastructure that deals with the needs of those Type 2 diabetics undergoing haemodialysis. We have 10 patients, a small but growing programme, undergoing pre dialysis insulin as another form of treatment, therefore widening patient choice. Pre dialysis insulin arose from the needs of two patients' who, due to hyperglycaemia, struggled to maintain their fluid balance and experienced the complications associated with fluid overload. They were unable to convert to subcutaneous insulin so were given an isophane insulin pre dialysis three times a week subcutaneously by their dialysis nurse. They had HbA1c's of >11% and at the end of their time on haemodialysis had HbA1c's of 6.7% and 7% with no adverse events. Our current cohort of patients are also doing well and are experiencing improved quality of life issues and are clinically more stable. This programme allows us to meet the holistic needs of the individual as well as meeting target HbA1c of 7% in the NSF for diabetes. The patients find this treatment comfortable, effective and non-invasive to their daily living. The dialysis staff find this treatment safe, patient-friendly and quick and easy to perform as part of the individual's care package. The first of many challenges to be met!

A MULTIDISCIPLINARY APPROACH TO VASCULAR ACCESS

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Aim: To emphasize the importance of cooperation of a multi-disciplinary team in the prevention of complications, early identification of problems and monitoring of vascular accesses. Three years ago we created a vascular access team consisting of two nephrology nurses, radiology surgeon and nurse, nephrologist, and vascular surgeon.
Evaluation begins in the predialysis clinic where patients are sent to our vascular clinic and with the help of a physical examination and/or venograph and ultrasound, the type and place of access are defined. We strive to use as many native fistulas as possible and have them useable by the onset of dialysis.
After the onset of dialysis, we drew up a number of protocols. For example, one on first cannulation and another based on the standards of the DOQI, which included, patient instruction on care of his access, physical examination of the access site and measurement of venous pressure, access flow and recirculation.
As a result of this, problematic fistulas were identified early and patients were immediately sent for a diagnostic angiogram and treated either by PTA, stent or declotting. In the three years since the creation of the team, there has been a decrease in the number of clotted access sites, from 28 in 2001 to 17 in 2003.In conclusion, monitoring, care and follow up of vascular access is of the utmost importance in the preservation of access sites and can only be done with the collaboration and close cooperation of a multi-disciplinary vascular access team.

BASELINE VARIABLES ASSOCIATED WITH EARLY DEATH AND SHORT TERM SURVIVAL AFTER FIRST DIALYSIS SESSION

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Background/aim: Variables modifying the survival of patients were previously investigated in maintenance haemodialysis (HD), however factors which affect short term survival are yet to be determined. We tested a few variables before initial dialysis to identify the risk of death during six months after initiation of HD.
Patients and methods: Sixty patients (38 M, 22 F, mean age: 53± 24) who were started on HD were included (renal failure 31%, malignancy 12%, liver disease 5%, heart failure 3 %, others 49 %). 20 % were outpatients, 26 % were from hospital wards, 53% from intensive care unit (ICU). Pre-postdialysis serum biochemistry, systolic, diastolic blood pressures (SBP, DBP), duration of HD, UF volume, blood-dialysate flow rates were compared between survivors and dead patients.
Results: Sixteen patients died (27%, mean time: 4.9± 5.6 months) since first dialysis. Death rate was highest in ICU (53 %) and lowest in outpatients (0%). Age (64± 17; 48± 25 years; p=0.01), urea/creatinine (predialysis) (24± 12; 15± 6; p=0.007), UF volume (2212± 815; 1531± 828 ml; p=0.006) were higher in dead patients than survivors. Predialysis serum creatinine (8.5± 5; 5.2± 3 mg/dl; p=0.01), SBP (133± 22; 115± 26 mm-Hg; p=0.01) and DBP (79± 15; 63± 11mm-Hg; p=0.001) was higher in survivors than dead patients. Linear regression analysis revealed only an effect of predialysis SBP on survival (t=2.7; p=0.02).
Conclusion: Predialysis SBP as a predictor of short term survival might be a reflection of septic complications. Advanced age, pre-renal factors (urea/creatinine), higher UF volumes, reduced muscle mass may also associate with poor outcome in dialysis patients.

BLOOD VOLUME CONTROL ....A BETTER DIALYSIS ..... A BETTER LIFE....?

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Project: Measuring, monitoring and controlling specific patients alteration in blood volume during a haemodialysis treatment based on a "critical blood volume limit".We want to acquire more information about changes in patients` blood volume, whether it concerns dialysis patients suffering from Hypotension or those who have a hypervolemic hypertension problem.
The purpose is to find the correct dry weight value to avoid unpleasantness and a drop in blood pressure. Using these methods we hope to find the correct dry weight.We started this small project in the autumn of 2002. It is based on more than 200 dialysis treatment which had BVC and 12 different patients.
In addition to collecting and registering data, the project will show if the method can bring a better life and a better quality of life to the patients. We also describe the nurse's role and responsibility in accomplishing the dialysis process with BVC.

INTEREST OF MODELLED SODIUM WITH BIOFEEDBACK SYSTEMS FOR IMPROVING TOLERANCE SESSIONS IN DIALYSIS PATIENTS

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Electrolytic equilibrium cannot be optimised by standardised prescriptions. We tested a new programme acting on the specific sodium assessment to each patient: Diacontrol®. The aim of this study is to limit the electrolytic imbalances caused by haemodialysis by modelling the variations of sodium dialysate and to analyse their consequences on tolerance of dialysis and quality of life in dialysis patients.We used Diacontrol® which is an algorithm based on measurement of plasmatic sodium concentration of the patient and makes an adjustment of dialysate conductivity during the whole session, to reach a specific target sodium concentration. The post-dialytic patient conductivity is prescribed according to the symptoms that the patient presents.
We studied eight patients presenting signs of intolerance: cramps, excessive weight, hypotension and thirst, for a period between six and eighteen months.
Results: - patients presenting cramps, the programme raised the dialysate conductivity, in order to compensate the salt loss caused by ultrafiltration, while respecting the final plasmatic conductivity. We observed a total disappearance of cramps. In patients who gained excessive weight and/or complained of intense thirst in the interdialytic period, the programme allowed the gradual reduction of the feeling of thirst as well as the exaggerated weight gain, and the patient was also able also to support the reduction of dry weight.
- Patients with intradialytic hypotension, in spite of an adapted dry weight, found this program had improved their hypotension.
- These improvements transformed their everyday life and reduced apprehension.Conclusion: Diacontrôl® is an effective program. The modelling of sodium allowed a new approach for a more physiological haemodialysis.

PUNCTURE PAIN IN HAEMODIALYSIS: INFLUENCE OF FISTULA NEEDLE GAUGE

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The aims of this study were to evaluate the effect of needle gauge on the degree of pain and the skin injury during arteriovenous fistula (AVF) puncture in haemodialysis patients (HD).
30 patients on HD were studied. All vascular access was autologous AVF, with the puncture made in surface arterialised vein (two needles). The study was performed in three consecutive HD sessions: each of them with a pair of needles of 16G, 15G and 14G randomly allocated. After the puncture AVF, a different nurse to the one that had performed the puncture, questioned the patient about the degree of pain perceived, about which the patient had been previously instructed on a visual analogue scale (VAS) and the meaning of the scale - (0 meant a lack of pain, and 10 unbearable pain). At the end of HD, when needles are removed and the clot is formed, we measured the length of the cut on skin at the puncture site using a magnifying-glass magnified x 10, graduated in decimals of millimetre.Needle gauge, Puncture pain (median), The prick in the skin (mean±SD)

16G	2 (0-7)	16.4±2.1 *
15G	2 (0-7)	18.0±2.0 *
14G	4 (1-7) *	22.0±2.3 *

* = p<0.0001.

In conclusion, the AVF puncture with the 15G needle gauge significantly reduces the degree of pain and the skin lesion at the point of puncture when compared with 14G needle gauges, and causes the same pain as the 16G gauge. Thus, 15G needle gauge could be considered the "gold standard" for the AVF access.

ONE YEAR EXPERIENCE OF THE APPLICATION OF A MODIFIED BUTTONHOLE CANNULATION TECHNIQUE TO PROBLEMATIC FISTULAS, BY MULTIPLE CANNULATORS

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Fourteen chronic haemodialysis patients developed problematic fistulas with marked aneurysmal formation and thinning of the overlying skin, in the overused limited cannulation sites. Six patients also experienced frequent episodes of oozing of blood from the needle insertion sites during the treatment and longer than usual haemostasis time after needle removal. Four patients received short daily haemodialysis treatments (5/week).
Methods: A modified buttonhole cannulation technique using dull needles was applied as follows: 1. Selection of the cannulation sites using bedside ultrasound (Site-Rite II) in areas of maximum skin integrity and least haematoma. In aneurysmal areas, cannulation was performed at the base of the aneurysm. 2. Creation of tunnel tracks by 1-3 experienced cannulators per patient, using sharp needles. 3. Incorporation of additional cannulators with the guidance of a mentor only after the tunnel tracks were established, and cannulation was achieved without difficulty, using dull needles.
Results: After 12 months of buttonhole cannulation, skin integrity in damaged areas recovered, bleeding from cannulation sites during dialysis ceased and haemostasis time post dialysis decreased from 25-50%. Cannulation pain decreased by 80-100% (pain scale). Access flows and dynamic venous pressures remained within target. Doppler studies showed vessel wall integrity without aneurysmal formation or blood leaks into the tunnel tracks in the selected new cannulation sites in all patients. To our knowledge this is the first study demonstrating that buttonhole cannulation technique, using dull needles, can be successfully applied to problematic fistulas, and that the technique can be effectively performed by multiple buttonhole cannulators.

LONG TERM OUTCOME OF HAEMODIALYSIS CATHETERS USING A STANDARDISED MANAGEMENT: A 5-YEAR OBSERVATIONAL STUDY

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Infection and dysfunction are main limitations of haemodialysis (HD)-catheters. We therefore initiated a standardized catheter management in out-patients with monolumen catheters (8F, 63% non-tunnelled) placed in subclavian veins (SV) within 10-15 minutes in the dialysis-unit.
During 5-years 80 patients received HD-catheters (50x SV; 30x tunnelled jugular vein) and we report on 17,760 catheter days (mean: 201 days; maximum: 1067 days). We applied sterile connection-sets, standardized exit-site care and pure heparin as catheter-lock (5000 U/ml). Technical dysfunction was treated by urokinase (10 000 U) for 45-60 Min (or 24-72h interdialytic period).
9 catheters needed replacement for persistent dysfunction. We recorded 8 episodes of suspected catheter-related sepsis (6x proven bacteraemia); i.e. 0.45 episodes per 1000 catheter days. We observed no catheter-related major complication or death. Performance rate of initial catheters regarding their primary clinical target (transient until shunt maturation: 48x or ultimate access until death: 15x) was high (79%; 63/80). Patients reported only minor discomfort despite long-term usage. So far, we observed no apparent post-catheter SV stenosis or fistula dysfunction.
Even in an outpatient setting, our standardized HD-catheter management provides excellent long term performance combined with a rather low risk of systemic infection. Patients accept minor local discomfort and can mostly avoid hospitalisation for access problems.

CONTINUOUS AMBULATORY PERITONEAL DIALYSIS TREATMENT IN A PATIENT WITH LOW SOCIO ECONOMIC STATUS

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Continuous ambulatory peritoneal dialysis (CAPD) is a treatment modality where active participation of the patient and family is mandatory. Therefore the socio-economic status of the patient is important. But sometimes CAPD treatment might be the only alternative in patients with poor socio-economic status. Even with such patients CAPD can be applied successfully by giving an intense training by CAPD nurses. We present a boy with end stage renal failure due to posterior urethral valve and vesicoureteral reflux present for 6 years. The boy was living with his grandmother in poor economic conditions. His divorced parents were giving no emotional or financial support to the patient. During that period since there was no haemodialysis centre nearby, and no person to take him to another centre, CAPD was the only choice for this boy. The illiterate grandmother was given a very intense training in the application of CAPD treatment. The home conditions were examined and necessary precautions were explained to grandmother. The boy has been maintained in CAPD treatment for 4 years with success. During this period he had only one initial peritonitis attack. The growth rate of the patient has accelerated. He is now attending the 4th class of the primary school and doing well. With this case, we would like to impress that, when obligatory, even for patients with inappropriate socio-economic conditions, CAPD treatment can be practiced successfully with frequent follow-up and good training of the patient and care-givers by ambitious and dedicated CAPD staff.

RENAL FAILURE: CAN WE TREAT THE PATIENTS ON A PAEDIATRIC WARD?

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The paediatric ward and hospital in which this work was carried out is situated in a unique geographical region serving a multi religious population.The aim of our paper is to present the changes instituted in the ward during the past two years in the treatment of children with renal failure including those receiving Peritoneal dialysis.
Peritoneal dialysis is generally administered in a specialized paediatric dialysis ward however this is not the case in our hospital. We treat patients in the regular paediatric ward, where children with wide diseases also receive their treatment.
Until two years ago children needing dialysis were forced to travel with their parents to specialized departments in distant centres to receive their treatment.
In recent years, due mainly to early diagnosis, there was a steep increase in the number of cases of renal failure.
We therefore realized the importance of re-educating our nursing staff in order to create a model that would attempt to fulfil all the treatment requirements of these children and their parents within their local environment.
We adopted a holistic approach in the retraining of our staff, placing the child and his family in the centre of nursing practice, while taking into account the needs of the patients, arising from the disease and its treatment.
The model trains the nursing staff to acquire the necessary skills for improving the quality of life of the patients and their families within their familiar environment.

PAEDIATRIC PERITONEAL CATHETER EXIT-SITE: MANAGEMENT AND CARE

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Introduction: - The physical-play activities of children together with their cognitive level serve to increase the risks in paediatric peritoneal dialysis. Therefore, it is necessary to ensure adequate care of the exit-site. Aims: To improve catheter fixation, to maintain the skin condition, to diminish the occurrence of pruritus and infections.
Methodology: - Active-prospective-descriptive study. All patients were included in a peritoneal dialysis (April 1996- April 2003). Material: nursing history, follow-up records, assessment records. We employed a hydrocolloid dressing to fix the catheter, the procedures were performed at intervals using saline solution and occlusive dressing as contamination preventives.
Results: - 58 catheters (46 patients). Replacements: 14 (8 patients). Removals: 33 (31 transplanted, 2 haemodialysis). Duration: 305 days (1030-59). Frequency (procedures): daily, alternate, every 3 days (14, 30, 2 patients), every 3-6 days (transplanted).
Peritonitis: 26 (15 patients). Infections (exit-site): 31 (19 patients). Spontaneous exits: 1 (exit-site and tunnel infections). Skin condition: optimum (100%). Catheter Fixation: optimum (100%). Pruritus: 21 patients. Duration (hydrocolloid dressing): 15 days (30-7). 100%: safer with these cares. Increment / cure: 0.10 Euros.
Discussion: - Infections/cures: 71.42% (daily), 25.8% (alternate), 0% (transplanted patients). Infections (73.6%) occurred in nasal carriages and were associated with Staphylococcus aureus (patient, caregiver and relative).
Conclusions: - The use of a hydrocolloid dressing as a second skin to fix the peritoneal catheter is perfect because it preserves the condition of the skin, diminishes the occurrence of pruritus associated with adhesives and reduces the risk of infections provoked by trauma affecting the exit-site. The less frequent the procedure - the less the risk of infections.

A COMPARISON OF CONTINUOUS AMBULATORY PERITONEAL DIALYSIS THERAPY TAILORED TO TWO DIFFERENT TARGETS OF UREA CLEARANCE

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Background: The optimal dose of peritoneal dialysis is difficult to determine. Current clinical practice sees data from medical history, physical examination, and laboratory measurements used for dialysis prescription. This methodology is subjective and potentially may result in prescriptions that differ between clinicians.
Methodology: A prospective longitudinal and interventional study was undertaken with follow up of 2 years commencing in 1997. 35 patients, 16 male and 19 female, met the study criteria. Block randomisation was used to separate patients into 2 groups differing only in dialysis dose.
Outcome: There were no significant differences in the primary endpoints of death, technique failure and nutrition. This was also shown in the ADEMEX Study. I will report the quality of life in the two groups and compare models of small solute clearance including Kt/V, CrCl, dialysis index and efficiency number in these groups.
Conclusion: The higher than expected drop out rate in the Study demonstrates the difficulty in achieving specified treatment targets. Our patients who do not reach national and international targets may reflect these difficulties rather than our lack of effort.

SUCCESSFUL PREGNANCY COMPLICATED BY HUMAN IMMUNODEFICIENCY VIRUS IN A PATIENT RECEIVING PERITONEAL DIALYSIS

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Introduction: This case study describes the care and management of a 29 year-old African lady who is Human Immunodeficiency Virus (HIV) positive, and recently delivered a baby boy whilst on PD.
Background: This lady was originally from Zimbabwe and has been resident here for four years. Her underlying renal disease is HIV nephropathy. She has been receiving PD since February 2003 (4 x 2 litre exchanges) and discovered that she was pregnant in October 2003.
Care and management: During her pregnancy the volume of PD fluid remained at 2 litres per exchange. At 32 weeks gestation, she commenced night-time automated peritoneal dialysis (APD). Throughout her pregnancy she continued with anti-viral therapy. She delivered a live male infant in January 2004, following a caesarean section at 36 weeks gestation. The baby weighed 2.76 Kg, and received oral anti-viral therapy from birth.
Evaluation: The main aim of care was to deliver a healthy infant, and also for the patient to remain on PD post-delivery because it was her preferred form of renal replacement. These aims were achieved although the patient did have profuse bleeding during surgery. Following the operation she rested from PD for 12 days and did not require haemodialysis.
Conclusion: This paper will present the unusual care and management of this patient, including the collaboration between obstetric, genito-urinary, paediatric and renal teams. There were specific psycho-social issues that needed to be considered. The renal care team learnt that with careful planning, a successful pregnancy with PD can be achieved.

TREATING THE INSULIN DEPENDENT, DIABETES MELLITUS, END STAGE RENAL DISEASE PATIENT WITH INTRA PERITONEAL INSULIN ADMINISTRATION

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In the late seventies some nephrologists started treating their diabetic patients with intra-peritoneal administrated insulin. Quickly they saw better regulation of metabolic diabetes. But a lot of laboratory tests were needed to find a semi-stable day profile that had to be verified every two weeks during hospitalisation. Peritonitis and hypo- or hyperglycaemia were never far away.
Since then new CAPD procedures, diabetes disposable injection-material and better self-care glycaemia control facilities became available and gave this procedure a fresh start with less risk of infection and less risk of disordered diabetes.Our statistics of the last 3 years can help to prove this.
76 patients with 698,0 patient months, 18 of these patients were diabetics (23,6%) with 153,0 patient months. 12 diabetics were on subcutaneous (SC)-insulin treatment with 103,0 patient months and 6 diabetics on IP-treatment with 50,0 patient months. We counted 37 episodes of peritonitis in the non-diabetic group and 12 in the diabetic group. 3 of these 12 episodes appeared in the IP-group and 9 in the SC-group. The lower glycosylated haemoglobin levels for our IP-group show, as extra, a better diabetes treatment.
Better control and easier insulin adjustments (with a flowchart to help the patients) will help to prevent the appearance of dangerous Diabetes Mellitus complications.Refining the diabetes therapy to prevent, without extra risk of infections, these life-threatening complications decreases the morbidity and mortality and increases the personal liberty and the quality of life of our IDDM-ESRD patients.

SFACTORS AFFECTING THE DECLINE IN REFERRAL OF END STAGE RENAL DISEASE PATIENTS TO PERITONEAL DIALYSIS TREATMENT - PRELIMINARY RESULTS OF A MULTI-CENTRE STUDY

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Studies have indicated peritoneal dialysis (PD) as the best first-line dialytic treatment for end stage renal disease (ESRD) patients. However, recent data reflect a decline in the use of the PD modality. In light of this, we have initiated the present study in order to identify factors affecting the decision of the multi-professional team regarding the choice of dialytic modality.
A questionnaire was distributed among 4 groups of staff members from 4 nephrology departments, namely physicians, nurses, social workers and nutritionists. It included statements about their positions regarding PD treatment. Of the projected number of 120 staff members, 63 (11 physicians, 44 nurses, 4 social workers and 4 nutritionists) have completed the questionnaire so far.
The 4 groups agreed that PD: (a) should be the first-line dialysis treatment; (b) provides better quality of life than haemodialysis; (c) is an adequate treatment for diabetic patients; and (d) is the preferred treatment for patients with cardiac disease. However, most physicians considered PD as a short-term treatment ($p<0.05$ vs all other groups), while most nurses and paramedical staff members considered it as the best long-term treatment for the young and the elderly ($p<0.05$ vs physicians). The study has revealed differences between physicians on the one hand and nurses and paramedical staff members on the other hand regarding their positions on modality choice for ESRD patients.

COMPARISON OF PERITONEAL DIALYSIS PATIENTS WITH OR WITHOUT DIABETES BY ADEQUEST TEST

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Peritoneal equilibration test is a test performed in order to determine accurately the permeability rates and the dialysis dosage that patients need. Our study enrolled 27 diabetic patients (12 females, 15 males) and 27 non-diabetic patients (12 females, 15 males). Body surface area, albumin levels, residual renal function, creatinine clearance and peritoneal Kt V of patients were measured. Their transport levels were categorised as low, low-medium, high and medium-high permeability by Adequest. Chi-square test and t-test were used for statistical analysis of data.Among patients in diabetic group, 22 were on continuous outpatient dialysis (COD) program, 4 on continuous cyclic peritoneal dialysis (CCPD) program and 1 on intermittent peritoneal dialysis at nights (IPDN). Among patients in non-diabetic group 21 were on COD, 4 on CCPD and 2 on IPDN. Mean age of diabetic patients was 52.6 and 46.3 in non-diabetics. Peritoneal dialysis age of patients in diabetic group was 27.5 months and 34.6 months in non-diabetic patients. When creatinine clearance was compared by total norms and total Kt/V between diabetic and non-diabetic patients, means were found to be equal ($p<0.327$, $p<0.787$). In diabetic patients permeability characteristics of transport types were categorized as highly permeable compared to non-diabetic patients ($p<0.01$). In conclusion, it is possible to achieve target clearance by frequent short-term alternate treatments without compromising ultrafiltration in the management of diabetic patients on peritoneal dialysis.

THE RELATION OF THE VOLUME BALANCE WITH THE EDUCATION LEVEL IN PATIENTS ON CONTINUOUS AMBULATORY PERITONEAL DIALYSIS

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The education of the CRF patients on peritoneal dialysis and the improvement of the data obtained as a result of this education, decrease the complications that cause the insufficiency of the dialysis. In this study, the relation of the education level with the total body fluid (TBF) and the urine volume was investigated.
28 patients (15 women (53.6%) and 13 men (46.4%)) with an average age of 43.35±12.46 were included in the study. The patients were trained about the complications of the dialysis and the fluid balance both before the onset of the dialysis and monthly after starting the dialysis. After the education, the patients were questioned using the questionnaires. Patients with scores of 80 or more were considered to have a high enough level of information.
Among the investigated patients, 23 were sufficiently, 5 were insufficiently educated. The TBF of the sufficiently educated patients was 36.80±7.63 and the TVS of the insufficiently educated patients was 34.00±3.39 kg. When the two groups were compared in respect of their TVS, the difference was statistically insignificant ($p< 0.05$). The total body fluids of the patients in Group 1 was 33.13±7.17 kg. In Group 2 this value was 34.37±6.30 kg.
These results indicate that, the maintenance of the volume balance depends on the ability of the patients to transform the education they got into information and to implement and continue to use the new skills, as well as the quality and the duration of the education.

Psychosocial Care

STRUCTURED NURSING INTERVENTION AND IMPACT ON SYMPTOM MANAGEMENT AND QUALITY OF LIFE IN HAEMODIALYSIS PATIENTS

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Haemodialysis patients suffer from symptoms and anxieties related to their illness and treatment. Their ability to cope with the disease and maintain a reasonable quality of life depends on their ability to control those symptoms.
This research examined the impact of a structured nursing intervention based on Orem's self care theory, on patients' ability to control symptoms and their quality of life. The intervention was applied to 10 haemodialysis patients and included structured home visits for each patient for a time period of 3 months. During that time the nurse assessed symptoms and educated the patient according to the self-care model. The matched control group (n=10) received the usual treatment in the ward. The symptoms were quantitatively assessed using the Symptom Control Assessment (SCA) instrument. Quality of Life was assessed using the Patient Adjustment Questionnaire (PAQ). The results indicate that in the experimental group, the intensity of the complaints was reduced ($p<0.001$), the patients felt more independent in managing their symptoms ($p<0.05$) and their family felt they could cope better at home ($p<0.01$). The control group reported an increase in the intensity of the complaints ($p<0.001$), decrease in independence ($p<0.01$) and decrease in families' ability to cope ($p<0.01$). Better symptom control was accompanied by an improvement in quality of life in the experimental group ($p<0.001$) in contrast to the control group. Thus, this intervention is an example of a holistic nursing intervention, which made the disease more tolerable.

IMPROVING THE CARE FOR DIALYSIS PATIENTS IN NURSING/RESIDENTIAL HOMES

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Due to longer life expectancy renal failure is becoming a disease of the elderly. Many dialysis patients are unable to look after themselves because of the debilitating effects of the illness. If living with relatives is not an option many have to move into a nursing or residential home. Before being discharged into the community the patient and their relatives are invited to consult with the education nurses and members of the hospital multidisciplinary team. All aspects of their care are discussed. However, the main carers in nursing homes are not made aware of the importance of adhering strictly to the aftercare treatment programme.
Communication channels break down when residents are unable to speak up for themselves and relatives assume the nursing home is managing their loved one's condition effectively. Typically nursing home staff do not possess the knowledge or experience of caring for dialysis dependent patients. The aim of this study is to design and produce a booklet for staff in nursing homes to ensure that their dialysis dependent residents are receiving the best quality care. We are in the process of visiting some of the homes where these patients reside. Our aim is to build up a partnership of care for dialysis patients. By consulting with the nursing home carers we hope to design an appropriately pitched care template that can be distributed to all nursing homes.

A COLLABORATIVE APPROACH TO MANAGING PATIENTS NOT WISHING TO HAVE DIALYSIS

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Many renal patients have complex medical problems and are not suitable for dialysis. Many patients also express a wish not to have dialysis when the time comes. These patients lacked structured support and care during this time and were being seen routinely in the renal clinics, often travelling long distances. The need to improve the care and support of these patients was identified. Patients not wishing to have dialysis needed to be seen outside of the acute hospital setting, empowering them and aiding them to have a quality of life away for the restraints of dialysis with their families in their own homes.
A Conservative Management Team, comprising of Nephrologist, Nurse Consultant, Pre Dialysis Nurse Specialist, renal counsellor and renal social worker was set up. A key team member would take responsibility for the management of patients. They would be seen elsewhere, have more time and be seen by the same health care professional. A clinic in a cottage hospital and home visits were introduced. This has improved communication between the team and the renal staff. Links with the Palliative care teams and local Hospices have been forged.
This change in practice has impacted on the service that we provide as it has enabled patients to receive a collaborative approach to care, with the benefit of having an assigned key worker. Family/carers receive lot of support both during and after the care of the patient. Patients and carers value the individualised care that they receive.

THE GRIEF PROCESS IN CHRONIC ILLNESS

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Chronic illness can have a profound impact on life, and there is a wide array of psychological changes an individual may encounter. Doka (1993) identified four phases of a life-threatening illness and a task based concept has been developed to understand how individuals confront each phase.
Pre-Diagnostic Phase: During this stage, the effects of "anticipatory grief" and psychological defence mechanisms may be displayed. There is not one defining moment in this phase, but a gradual culmination of events.
Acute Phase: This centres around the crisis of diagnosis. Denial, anger, bitterness and blame are common emotional responses during this phase. Kimmel et al (1998) linked depression, lack of social support and negative perceptions of well-being to non-compliance in patients suffering from chronic renal disease.
Chronic Phase: With advances in medicine, this stage may last a significant number of years. The individual will try to cope with the demands of life. They may experience a recovery stage, in which they deal with the psychological, social, physical, spiritual and financial effects of their illness.
Terminal Phase: The final phase occurs when death is inevitable. In preparation for death, they may take the opportunity to fulfil any achievable ambitions or resolve any outstanding family issues.
Conclusion: The task based model can be used as a framework to facilitate the transition from health to ill health. By understanding this process, the health care professional can play a vital role in assisting the individual diagnosed with Chronic Renal Disease towards making the life-changing transitions necessary for acceptance of their new identity.

ADEPRESSION AND HEALTH-RELATED QUALITY OF LIFE IN HAEMODIALYSIS PATIENTS

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The object of this study was to examine the association between depression and HRQoL in haemodialysis patients independent of known predictors of HRQoL. A descriptive design was used to conduct this study. Depression was measured using the Beck's Depression Inventory (BDI). HRQoL was measured using the Medical Outcomes Study 36-item Short Form (SF-36) in 140 haemodialysis patients. Sixty-two subjects were BDI> 15 score. The SF-36 mental component summary (MCS) and physical component summary (PCS) correlated inversely with the BDI score (MCS, r=-0.26, P<0.01; PCS, r=-0.43, P<0.01). The PCS score also correlated with age (r=-0.22, P=0.02), haemoglobin (r=0.21, P=0.048) and mean PCS was lower in subjects who had BDI > 15 score (22.6 vs 31.4, P=0.02). Subjects with BD > 15 score had a lower HRQoL in all SF-36 domains. The global BDI score was a significant independent predictor of the MCS and PCS after controlling for age, sex, haemoglobin, and serum albumin in multivariate analysis. Depression is common in haemodialysis patients and is associated with lower HRQoL. We hypothesize that end-stage renal disease directly influences depression, which in turn impacts on HRQoL.

INCREASING DIVERSITY OF THE PRE-DIALYSIS NURSE ROLE

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Introduction: The role of the pre-dialysis nurse is increasingly diverse. Traditionally the role involved giving patients an opportunity to make an informed choice about renal replacement therapy and being involved in the pre-dialysis patient education programme (PEP). In recent months the role has expanded and now includes home visits with the renal counsellor, and also collaboration with the primary care team to provide palliative care for those who choose conservative management rather than dialysis.
Purpose: The aim is to discuss and evaluate the pre-dialysis role.
Design: Data over two six-months periods were collated (June-December 2002 and June-December 2003).
Findings: The main differences between the two audit timeframes were that in 2002, only 36% of these patients had attended the PEP, whilst 51% attended the PEP in 2003. More significantly, in 2002 there were only 12 patients who opted for conservative management, whilst in 2003 there are 25 known patients who have chosen this option (17% of known pre-dialysis patients).
Conclusion: There are increased numbers who have attended the PEP and also increasing numbers of patients who have opted for conservative management. This may be because they have been given the opportunity to evaluate their options in their own home and subsequent provision of counselling and/or support from a palliative care nurse can be offered.
As we have recognised within our unit that the pre-dialysis role will expand, an opportunity to employ a renal palliative care nurse has been created.

WITHDRAWAL OF DIALYSIS

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Background: I am currently the Lancashire facilitator for the North West regional renal audit programme. The programme was set up in 1992 to carry out clinical audit on renal patients in the North West region.
Introduction: Through this steering group it was suggested that we look at patients who withdraw from dialysis therapy. There appeared to be an increasing incidence of patients who either withdrew from dialysis or had dialysis withdrawn as advanced age and co-morbidity appeared to no longer contra-indicate initiating renal replacement therapy. The feasibility of this audit was initially uncertain as we felt that there may not be sufficient patient numbers, it was decided to undertake a pilot audit in the Lancashire region.
Method: Data was collected on all patients who withdrew from dialysis in the two year period January 2001-December 2002.
Results: Within this period 29 patients withdrew from dialysis. Data that was collected included demographic data, marital status, diabetic status, mode of dialysis, length of time on renal replacement therapy, co-morbidity, ethnicity, place of death and survival. We also considered and classified the process of decision making that had taken place prior to withdrawal of therapy.
Conclusions: Evaluation of the findings of the audit demonstrated that 18% of our total deaths within that two year period followed withdrawal of dialysis therapy. It was therefore felt that we had identified an area where a prospective regional audit was relevant.

COPING AND MANAGING STRATEGIES OF HAEMODIALYSIS PATIENTS

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One of the changes and challenges for staff over the past 15 years has been the increasing number of older patients coming onto haemodialysis programmes. Statistics will be shown to demonstrate this.
A recent study carried out in our unit with 44 patients participating was aimed at demonstrating what strategies patients used to cope with and manage their illness and the treatment. The results show that most patients adopt an emotion focused technique i.e. avoidance/denial. The study highlighted literature that would suggest such techniques have a more detrimental effect on patients as opposed to problem focused techniques i.e. facing problems head on and seeking support from family, friends and/or professionals. These will be explained in more detail within the paper.The research also demonstrated problems particularly related to older patients and we will also highlight these and offer suggestions on how best to manage these.In conclusion, we will show that despite the significant advances in dialysis over the years, the psychological needs of patients and the psycho-social supports that they use to cope with this chronic illness have changed little over the years and this adjustment is still a major problem for many patients and their families.

PATIENT EDUCATION OR PATIENT MOTIVATION - IS INFORMATION ENOUGH?

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A Patient Education Service based within a 40 bed dialysis unit has been available to renal patients for 13 years. As one of the first units in Europe to offer individual comprehensive patient information sessions we have continued to develop the service beyond pre-dialysis treatment options. All patients approaching established renal failure are referred to nurse-led Patient Education Clinics. A one to one session is arranged inviting the patient and family/carer along to discuss their illness. Specialist nursing staff with renal and counselling experience assess the patient's educational and emotional needs. An individual patient education programme is commenced. This support is ongoing and includes: general health advice, self-administration of Erythropoetin, treatment options, pre-emptive transplantation, live organ donation, conservative management and person-centred counselling. We are often the first point of contact for the patient and can refer them on to other members of the multidisciplinary team as necessary.
We provide support from the pre-dialysis stage to beyond transplantation. Our experience has highlighted a need to expand our existing service to meet dialysis patient's expectations for support at the bedside. Plans include focused motivational workshops for patients on maintenance dialysis to address concordance. Issues will include: diet, fluids, weight, exercise, smoking, medications, bone disease, transplantation and emotional well-being. To bring about behavioural change it is essential to shift the focus of health education from the professional to the patient perspective.
We aim to identify individual health issues, which will motivate patients towards positive behaviour to reduce co-morbidities and improve long-term outcomes.

A BETTER LIFE

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This case history will demonstrate the advantages of collaborative working in providing daily haemodialysis at home.
The authors intend to share with the members how collaborative working between nursing, medical and social work staff resulted in providing a patient who required daily dialysis due to Oxylosis, an improved quality of life.
The case history will address factors such as financial, social, and psychological care from both the nursing and social work perspective. It will highlight the difficulties and institutional dilemmas faced with challenging the system in order to enable this patient to regain control of her life.
In conclusion we will summarise the benefits of our collaborative working in improving this patients quality of life and her family's.

PSYCHO/SOCIAL ASSESSMENT AND SUPPORT OF DIALYSIS PATIENTS OVER THE YEARS

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Just as the way patients are assessed for dialysis has changed over the past 40 years so too have the expectations they have from their treatment.
This paper will take a closer look at the way patients were selected and supported in the early days and how this has changed.
Attention will be given to the increasing age and frailty of our patient population and their present expectations from treatment. In many cases "Quality" of life is as important as life itself.
Finally I will look at the small but increasing number of patients who make a conscious decision to withdraw from dialysis and how we can support them and their families at this time.

Quality, Audit and Research

PREVENTING ANAEMIA IN THE PRE-DIALYSIS POPULATION

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Anaemia affects 60-80% of patients with renal impairment, reduces quality of life and is a risk factor for early death. Treatment options include blood transfusion, erythropoietin alpha or beta, darbepoetin alpha and i.v iron. Recently higher haemoglobin targets have been advocated because of positive data from observational studies. It could be argued that achieving these higher targets may cause a financial burden to an organisation whose health care resources are already scarce.
Our unit has a Pre-Dialysis population of 280 patients with a GFR<30ML/MIN, with 180 of these patients having anaemia management. In order to improve our haemoglobin targets, we applied methods to prevent the costs of darbepoetin therapy escalating.
Following three monthly audits we revised our anaemia protocol. We adopted an anaemia prevention strategy and increased our haemoglobin target from 11.5g/dl to 12.5g/dl. The prevention strategy targets low clearance patients not already receiving anaemia management. If their serum ferritin indices are <200ug/dl (functional iron deficiency) oral iron medication is prescribed. A referral for intravenous Venofer is made if the patient is unresponsive to oral iron. Treating iron deficiency before haemoglobin levels drop below 12.5g/dl has enabled us to stabilize the use of darbepoetin alpha, and increase our average haemoglobin levels from 11.4g/dl to 12.4g/dl. We have also improved our percentage of patients with haemoglobin levels >11g/dl from 85% to 93%.
Using functional iron deficiency as a predictor of anaemia in the pre-dialysis population enabled us to treat more patients, reach and maintain higher haemoglobin levels whilst maintaining cost effectiveness.

SERUM CALCIUM, PHOSPHATE AND PTH LEVELS IN DUTCH DIALYSIS PATIENTS; DO THEY MEET THE K/DOQI CRITERIA?

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Recent guidelines from K/DOQI stress the importance of maintaining calcium, phosphate (PO_4), calcium-phosphate product ($Ca\text{-}PO_4$), and PTH levels within prescribed limits. For dialysis patients K/DOQI recommends Ca-levels between 8.4-9.5 mg/dL, PO_4-levels between 3.5-5.5 mg/dL, $Ca\text{-}PO_4$ below 55 mg/dL, and PTH-concentrations between 150-300 pg/mL. This study explores the compliance to these guidelines and its effect on mortality.
As part of a prospective multi-centre study in the Netherlands (NECOSAD), we included patients new on dialysis treatment between 1997-2002.Data were collected 3 months after the start of dialysis treatment. We recorded date of death or censoring until May 2003. We included 1447 patients, mean age 59 yrs (SD:18), 61% were male, and 63% were treated with haemodialysis. 44% of the patients met the calcium criteria, 11% had lower, and 45% had higher levels. For the PO_4 target, 8% had a level below the target, and 50% above the target. 43% of the patients had a $Ca\text{-}PO_4$ product above 55 mg/dL. For PTH 20% met the guideline, 58% had a lower level. Only 4% of the patients met all 4 K/DOQI criteria. After adjustment for age and comorbidity, a trend for an increased mortality risk (HR 1.3; (1.0-1.7) p=0.07) was found for patients below Ca recommendation. No effect on mortality of the PO_4, $Ca\text{-}PO_4$, or PTH targets was observed.
The number of patients complying the K/DOQI guideline in the Netherlands is low. Yet, the impact on overall mortality of the targets as suggested in these guidelines was limited.

IRON DEFICIENCY IN PRE-DIALYSIS PATIENTS WITH CHRONIC KIDNEY DISEASE AND DIABETES

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Anaemia management in non-dialysis patients is largely dictated by guidelines designed for dialysis dependent patients, irrespective of underlying diagnosis. Data concerning iron status is lacking in pre-dialysis patients, and virtually non-existent in specific patient groups such as diabetics.
The aim of this retrospective study was to describe the distribution of haemoglobin (Hb) levels, iron status, and GFR in 195 non dialysis patients with diabetes at time of referral for anaemia management and the subsequent treatment with iron and erythropoiesis stimulating agents required to achieve a unit protocol target Hb level of >11g/dL. Patients were stratified using KDOQI stages of CKD 1-5. 59 were stage 5, mean Hb 9.4 ±1.1g/dl, 101 stage 4, mean Hb 9.9 ± 0.9g/dl. All but one of the remaining 35 patients were stage 3, mean Hb 9.7 ± 0.9g/dl. 104/195 patients were receiving oral iron at referral, but 60% of these required intravenous iron. Stage 4& 5 63% required intravenous iron, with 40.1% achieving a target Hb >11g/dl with intravenous iron alone. 80% of stages 1-3 required intravenous iron, 42.7 % achieved a target Hb >11 g/dl with IV iron alone. Only 6 (3%) achieved Hb level of 11g/dl with oral iron alone.
Patients with diabetes and CKD do not achieve target Hb levels with oral iron but do respond to intravenous iron. Inadequate iron stores are often overlooked as a contributory factor to anaemia in patients with diabetes and CKD. These patients need to be treated with IV iron.

PRESSURES ARE NOT SUITABLE ACCESS QUALITY PARAMETERS IN AV FISTULAS

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Dynamic arterial and venous pressures (PA, PV) are used as the simplest tool to assess vascular access quality (VAQ). An increased PV during three consecutive dialyses is believed to indicate a stenosis, a rule devised for synthetic grafts but not properly validated for AV-fistulas.
In our VAQ surveillance system both access flow (QVA) and also pressures are recorded. In this study PV and intraaccess pressure (calculated according to simplified formula of Polaschegg as PIA=(PA+PV)/2) changes were evaluated in 46 accesses in which balloon angioplasty (PTA) was eventually performed. The group consisted of 30 forearm fistulas (FF), 5 upper arm fistulas (AF) and 11 synthetic grafts (G). Pressures were compared in each patient at the time of still satisfactory QVA (PV1, PIA1) and immediately before PTA (PV2, PIA2). Pressure change > 20 mmHg was considered significant (?PV=P2-P1, ?PIA=PIA2-PIA1).
The Table below shows the mean QVA and mean PV and PIA change in groups FF, FA and G at both measurements. The numbers in parenthesis indicate how many patients showed significant change in PV or PIA.

access type	QVA1 (ml/min)	QVA1 (ml/min)	ΔPV mmHg	ΔPIA mmHg
FF	560	239	2,5 (3)	-0,7 (4)
AF	623	272	-5,7 (1)	-1,8 (1)
G	740	383	18,4 (6)	15,1 (6)

The only significant change was seen in PV and PIA in group G. Evaluation of PIA has not improved stenosis detection in any group. We conclude that PV and/or PIA monitoring may be useful to detect a stenosis in G but not in fistulas. We strongly advocate using QVA as a universal access quality assessment parameter.

POST RENAL BIOPSY CARE: A QUESTIONNAIRE BASED INQUIRY

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Renal biopsy is associated with significant complications. A recent study of 750 biopsies in adult patients revealed that biopsy related complications occurred in 13% cases - 6.6% minor and 6.4% major. Following renal biopsy it is imperative that patients should have a period of bed rest and close monitoring of blood pressure, pulse, biopsy site and urine for the presence of haematuria. However, there is no consensus view as to how long the patient should be observed post renal biopsy. In the above study, 90% of complications occurred within the first 24 hours. Another study showed 66% of complications were apparent within 6 hours of observation and 100% within the first 12 hours. To assess the standard of post renal biopsy care in the UK we undertook a postal survey.
We sent a questionnaire to 100 randomly selected Nephrologists across the UK. We were keen to establish their recommended length of supine and non-supine bed rest and the total length of observation. The response rate was high with 80% returned within 2 months. The table below shows the results. In 58% of centres the biopsies were carried by a nephrologist and in 23% by a radiologist.
This inquiry has highlighted wide variations in post-renal biopsy care in the UK. Guidelines need to be devised to ensure uniform care in all nephrology centres.

Recommendation	Supine bed rest (%)	Non-supine bed rest (%)	Total period of observation (%)
0-2 hours	8	32	0
3-6 hours	65	17	12
7-12 hours	18	25	16
13-24 hours	9	26	72 *

*56% recommend 24-hour observation

REDESIGNING PRE-DIALYSIS PATHWAYS FOR IMPROVED EFFICIENCY

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Appropriate management of pre-dialysis patients with CKD is essential for optimal patient outcomes. Late referral of patients with CKD is associated with increased mortality, morbidity and hospitalisations.
Objective: To improve patient flow through pre-dialysis pathways thus improving patient outcomes through process redesign.
Method: Australian/KDOQI guidelines recommend patients be referred to a Nephrologist and for vascular access when CrCl 25-30mls/min. Initial analysis revealed patients were registered with North West Dialysis Service (NWDS) below these guidelines. To address this, process redesign teams reviewed four key areas: 1) Timeliness of registration(R), 2) Provision of education <b(E), 3) Insertion of surgical access <b(A), 4) Commencement on Dialysis <b(D). NWDS established targets for registration at CrCl 30mls/min and referral for vascular access at CrCl 25mls/min. Methods used included assessing current practice, identifying blockages and mapping best practices. Implementation of changes began in March 2001.
Results: The median CrCl for registration increased from 12mls/min (January 2000) to 20mls/min (June 2003). Patients registered late decreased from 30% to 16% and those never registered decreased from 60% to 0% in the same period. The median time from referral for vascular access to insertion has increased from <1month to 7 months with a decrease in waiting time from 52 days to 34 days. In addition, the number of patients commencing dialysis with a permanent vascular access has increased from 25% (January 2000) to 90% (June 2003).
Conclusions: Through process redesign we have formulated **READ** resulting in improved patient outcomes and efficiency of patient flow through the system.

REDUCTION IN THE MORTALITY IN DIABETIC DIALYSIS PATIENTS TREATED BY THE HAEMOCONTROL BIOFEEDBACK SYSTEM METHOD

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Background: Renal insufficiency develops in 20% - 45% of all patients with diabetes. Haemodialysis treatment in the diabetic population is more difficult that in non-diabetic patients. Construction of an individual HBS program for each patient allows for a more precise and smoother dialysis treatment plan for each patient with fewer episodes of hypotension.
Methods: Two groups of diabetic dialysis patients were studied. Group I consisted of 17 patients treated by HBS. Group II consisted of 49 patients treated by conventional haemodialysis and served as a control. Parameters included KT/V, Albumin, Haemoglobin and HbA1C. TWL, changes in dry weight, syncopal episodes and mortality were also monitored.
Results: Records of 66 diabetic dialysis patients were examined during the years 2002-2003. Group I - mean age 65.2 years; years on dialysis - mean time 3.6; mean TWL - 3.9 kg; number of syncopal episodes - 0; mortality - 2 patients (11.8%). Group II - mean age 69.5 years; years on dialysis - mean time 3.5; mean TWL -3.4 kg; number of syncopal episodes -52; mortality - 17 patients (34.6%). There were no significant differences in the laboratory parameters between the two groups.
Conclusion: On the basis of the results obtained we conclude that the removal of excess fluids was achieved without complications using the HBS. This method can improve the quality of life and probably reduce mortality in this high-risk group.

DIALYSIS ACCESS SURVEILLANCE: INTEGRATIVE APPROACH OR SPECIALISED NURSE PRACTITIONER?

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Introduction: Thorough access surveillance is generally considered because of the ageing dialysis population and increasing access malfunction. Many dialysis units in the Netherlands appoint an access nurse practitioner. This nurse supervises all access surveillance tasks.
Alternative: Our centre has chosen for an access surveillance "training on the job" programme with a team of 6 skilled dialysis nurses. The entire nursing staff is closely involved in the complete access surveillance process.
Advantages of this set-up:
Entire nursing staff involved.
Interpretation consensus among investigators, shared knowledgePerson independent.
No extra costs.
Goal: Safeguarding an access surveillance programme.
Creating an access surveillance team with strict task assignments.
Defining a profile sketch for the access nurses.
Developing access protocols.
Consulting, training and education schedules.
Results: After 6 months education and training all nurses performed access flow measurements, access inspections and accompanied patients with access intervention in surgery and radiology. Unexpected access occlusions reduced and extended access survival as a result of elective, uncomplicated PTA's. Implementation of access protocols insured a univocal approach. Consulting enabled us to discuss (access) problems and implement a policy.
Conclusion: 18 months operational, the access team is embedded in the organisation and considered a consulting partner for doctors and nurses. Intensifying the surveillance effort and time in this manner has increased detection of access malfunction by 600%. And finally improved insight and satisfaction with patients and nurses. This concept turned out to be motivating and is applicable in any dialysis unit without additional costs.

DIET AND IRON CORRECTION: A NOVEL APPROACH TO OPTIMISE ANAEMIA MANAGEMENT IN PRE-DIALYSIS PATIENTS

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Background: Anaemia has a negative impact on the patients' quality of life and has been shown to be associated with an increased risk of morbidity and mortality. In our renal unit the pre-dialysis (PD) patients have their full blood count measured along with ferritin and iron profile as part of their management.
Methods: A retrospective review of all the PD patients referred for anaemia management during last year. This cohort group of 118 patients had a creatinine range of 61-600mmol/L, ferritin 4-887ug/l and haemoglobin 7.1-17.5g/dl. PD sister and renal dietitian assessed the patients' iron status. Most patients, including those that previously had side effects from oral iron medication, tolerated intravenous iron and required an average of 6 doses of iron sucrose 200mgs to increase their ferritin levels to between 150-200ug/l prior to starting epoietin beta injections. A nutritional assessment showed a diet low in iron compared to normal requirements. The renal dietitian gave practical advice for a higher iron diet to meet their daily requirements.
Results: Iron correction and dietary advice greatly improved their ferritin levels to 31-790ug/l. In addition, epoietin requirements were reduced whilst haemoglobin levels had a minor increment at 7.6-15.4g/dl. Most importantly, the patients reported an increased feeling of "wellbeing" and were satisfied with outcomes.
Conclusion: A combined medical and dietetic approach is effective to correct anaemia in renal failure. Patients referred for anaemia management need to be seen by a dietitian so that advice can be given regarding iron intake.

EVALUATION OF THE BENEFITS OF BLOOD PRESSURE CONTINUOUS MONITORISATION ON HAEMODIALYSIS PATIENTS USING HASTE FUNCTION

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Introduction: Haemodialysis induces haemodynamic instability, causing hypotension.HASTE function allows Blood Pressure (BP) non-invasive continuous monitorisation to detect a possible hypotension within prefixed parameters through an algorithmical calculation using ECG signal registration changes and/or the Oxygen saturation wave.
Study Objectives: 1. To validate BP through the Colin Monitor (CM).2. To demonstrate the presymptomatic hypotension detection through the HASTE function.
Material and methods: Longitudinal descriptive study.CM validation: we monitored BP in 21 patients simultaneously using CM and conventional methods every 30 minutes, during a haemodialysis session.Validation of the second objective: we monitored BP in 23 patients every 30 minutes, using CM, during 6 haemodialysis sessions, setting alarm levels for BP readings equal or below 100/50 mmHg. Afterwards we monitored them, with conventional methods, during 6 sessions. A nursing protocol for hypotension was agreed.
Results: 57 symptomatic hypotension episodes were registered, 27 during the conventional method period and 30 during the CM period, without significant statistical differences. More nursing interventions were required during the conventional period, due to more severe hypotensions.
Conclusions: 1) There is no statistical differences between BP measured by both, CM and conventional methods.
2) Reading numbers increases during Colin period due to the activation of HASTE function.
3) Symptomatic hypotensions during conventional period are more pronounced, requiring more nursing interventions.
4) Early detection decreases hypotension number and their severity.
5) In haemodialysis, nursing role is essential and should not be replaced by any equipment.

IMPROVING INDIVIDUAL PATIENT CARE: IMPLEMENTATION OF AN INTEGRATED PRE-DIALYSIS PROGRAMME

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The growing incidence and prevalence of Chronic Kidney Disease (CKD) and End Stage Renal Disease (ESRD) has been putting a considerable strain on the dialysis unit but also on the polyclinical activities of our nephrology services.
To optimise the follow-up of CKD patients we started a pre-dialysis project in January 2003. This project leans on four important cornerstones.
1. Registry: all patients with a serum creatinin clearance below 45 ml/min are unlisted enabling us individually follow-up of renal function.
2. The function of CKD pre-dialysis coordinator was created. He plays a pivotal role in the multidisciplinary approach by updating predialysis files, preparing monthly predialysis meetings, taking care of additional contacts with patients and giving permanently feedback to the team.
3. A pre-dialysis clinical path has been drawn consisting of well defined consecutive sessions during which specific information is given about renal insufficiency and ESRD treatment modalities in an effort to help the patient in his choice of RRT modality.
4. The fourth part are the so-called 'renal classes' during which a broad spectrum of topics are presented such as nutritional counselling, anaemia management, vaccination, blood pressure control, dialysis access, medication compliance and optimum body (dry) weight. Patients and their families and eventually their primary care physicians are invited to these sessions.
We are convinced that a well elaborated CKD pre-ESRD programme styled on the efforts of a motivated multiprofessional team will have a beneficiary influence on our patients accompanying them on their often troublesome journey to RRT.

AESTHETICS AND NEPHROLOGY NURSING - AN ART FROM THE HEART

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Human beings have, since early times, the need to be surrounded by beautiful, pleasant and harmonic things. These needs are embodied through an aesthetic sensibility which has the power to lead people to experience well-being, beauty and pleasure no matter his/her physical condition. People value their bodies and general appearance not only because of its practical utility but also due to the aesthetic look and the "media" help a lot. With so many resources spent to produce ideal bodies, to be healthy and pretty it's not only a right but also a duty. When exposed to a chronic disease and painful procedures, feeling ugly, dependent on the staff/treatment, and poorly respected in terms of privacy and modesty, the person with renal disease (RP) has to deal with all that. Many times (RP) is submitted to depersonalisation and disharmony, leading definitely, to experiences of great sadness, incomprehension and dissatisfaction both in RP and Renal Nurses (RN).
As (RN) to what extent do we value these feelings and the concept of aesthetics while caring? We carried out a qualitative study, using a semi-structured interview with ten renal nurses. As results show: the use of aesthetic knowledge in nursing care stimulates creativity and affection allowing both (RP) and (RN) to have feelings of trust and commitment; relationships are promoters of personal development and appeasement, through the search to retain beauty, self esteem and pleasure. An aesthetic environment is considered safe and rewarding through which nursing care can become a true Art.

Renal Nutrition

A PROSPECTIVE STUDY OF NUTRITIONAL AND BIOELECTRICAL IMPEDANCE INDICES IN DAILY NOCTURNAL HAEMODIALYSIS

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Conventional thrice-weekly haemodialysis (CHD) is associated with poor nutritional status, progressive loss of lean body mass and hypocholesterolemia. These factors have been associated with increased mortality in the ESRD population. Daily nocturnal haemodialysis (DNHD) offers better uraemic solute clearance than CHD, and may be associated with improved nutritional status. Phase angle is an indirect measure of body cell mass that is measured using bioelectrical impedance analysis (BIA); improvements in phase angle have been associated with improved survival in dialysis patients. We assessed biochemical, nutritional, and bioelectrical impedance parameters in 35 incident DNHD patients followed prospectively for one year.
Comparisons between baseline (to) and 1-year values were as follows (mean ± SE): BMI 27.1±1.2 vs. 27.8±1.1 (NS), dry weight 81.1±4.3 vs. 83.0±3.9 kg (NS), serum albumin 39.1 ± 0.7 vs. 37.9±0.8 g/L (NS); total cholesterol 4.52±0.19 vs. 4.95±0.17 ($p<0.008$), LDL 2.56±0.20 vs. 2.60±0.12 (NS), HDL 1.29±0.08 vs. 1.43±0.155 (NS), and triglycerides 1.69±0.14 vs. 2.27±0.25 mmol/L ($p<0.01$). Extracellular and intracellular fluid volumes, as measured by BIA were: 19.0±1.05 and 24.9±1.3 L respectively at to and no significant change after1 year. By linear regression, phase angle increased at a rate of +0.011±0.0083 °/month as compared with a historical control value of -0.043±0.012 °/month in CHD.
Treatment with DNHD for one year results in increases in phase angle and total cholesterol without significant changes in body weight. This is associated with improved survival in CHD patients; further studies will be required to determine whether these improvements will translate to improved survival in DNHD patients.

SPREADING THE WORD - IMPROVING THE QUALITY OF DIETETIC RENAL CARE

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Nutritional advice and support is a crucial part of the management of individuals with renal disease. Renal dietitians in our unit are based in a regional tertiary referral centre. However as many individuals with renal disease are admitted to surrounding local hospitals, they often require appropriate nutritional support in general wards. There is also an acute shortage of renal dietitians in our country, and a national Renal Workforce Planning Group (2002) has suggested that although there were 147 (whole time equivalent) renal dietitians in 2001, 380 were actually needed.
As a result, a regional renal nutrition study day was planned to educate non-renal dietitians on a continuing basis on aspects of renal dietary management. The aim was to improve the quality of care of patients with kidney disease in the non-renal setting. Learning outcomes for the day included increasing the confidence of non-specialist dietitians and decreasing variances in dietetic services. This would help enable a seamless transition of patients between hospitals.
The study day was organised for September 2003. There were around forty-five attendees from hospitals within the renal unit's catchment area. Speakers included two consultant nephrologists, the pre-dialysis nurse, and a number of senior and chief dietitians from around the country. Evaluation of the day was very positive and another study day is planned in the future. The national Renal Nutrition Group has discussed this initiative and it is hoped that the study day will be replicated in other parts of Europe.

NURSES' PERCEPTIONS OF NUTRITIONAL CARE PROVIDED TO NEPHROLOGY PATIENTS: A PHENOMENOLOGICAL STUDY

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The aim of this paper is to identify how nephrology nurses perceive the nutritional care that they provide to patients.
The study is qualitative in nature and utilises the research methodology of phenomenology and the philosophies of Hans Georg Gadamer. The purpose of this approach is to understand how nurses perceive this care and the values and beliefs that they have in relation to nutrition.
Data was collected from a sample of twelve nephrology nurses via a three staged interview process.
The findings indicate that:
There are social and society influences that effect nutritional care.
Hospital catering systems and the delegation of nutritional care to other members of the health care team has devalued nutrition for nurses.
Nurses experience difficulties with prioritising nutrition within the care for their patients.
The extended role of the nurse and the widening expectations for nursing skills has an effect on taking the nurse away from the basic nursing care needs of the patient of which nutrition is one.
From the findings in this study this paper will explain that nephrology nurses have concerns about the nutritional care that they provide to patients and that their knowledge base in relation to nutrition needs to be further improved.
The conclusion of this study is that there is a need within nephrology nursing to move towards improving and developing further education in relation to nutritional care for nurses. This will help to meet the challenges and the needs of the increasing nephrology patient population.

EXPERIENCES WITH USING GLARGINE IN HAEMODIALYSIS PATIENTS

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Problem: Poor glycaemic control in 7 Diabetic haemodialysis patients treated with insulin.
Purpose: To improve patient glycaemic control with a basal bolus regime using the long acting insulin Glargine and 3 rapid acting injections of Novorapid or Humalog, with meals. Insulin Glargine (Lantus) is a long acting human insulin analogue that has been specifically designed as a once daily injection. It provides a relatively constant basal level of circulating insulin with no pronounced peak.
Design: The renal dietitian or Diabetic Specialist Nurse (DSN) identifies the patients with poor glycaemic control suitable for using Glargine. This is discussed with the patient and other members of the renal diabetic multidisciplinary team. The DSN consults regularly with the patient and carers pre, during and post insulin regime adjustment. The renal dietitian reviews both pre and post insulin adjustment providing dietary education.
Findings: A mean 1.4 % decrease in HbA1C was demonstrated in the patients during a 3-4 month period. There was also overall improvement in daily glycaemic control with less hypo- and hyperglycaemia reported. The mean Glargine dose was 32 units taken in the morning. Patients reported enhanced well-being and Quality of Life.
Conclusion: In this uncontrolled study a basal bolus regime using Glargine improves overall glycaemic control. This may help to reduce long - term complications. Patients previously on b.d. insulin regimes have found greater flexibility both with their lifestyle and diet on the Glargine regime. The patients found that there was no need to change Glargine dose on dialysis days

NUTRITIONAL MANAGEMENT OF SCLEROSING PERITONITIS - A CHALLENGE

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Sclerosing peritonitis is a serious and increasing complication of peritoneal dialysis and is associated with high morbidity and mortality. Symptoms vary in severity and include nausea, vomiting, abdominal pain, partial small bowel obstruction, and impaired ultrafiltration. Parenteral nutrition, with its associated risks, is the only described method of feeding in sclerosing peritonitis. This case study illustrates the success of an alternative, potentially safer, method of feeding.
A 39-year-old Asian man commenced on CAPD in April 2001. After several episodes of peritonitis, he was diagnosed with tuberculous and sclerosing peritonitis in April 2003. His CAPD catheter was removed, and he transferred to haemodialysis. Parenteral nutrition was commenced after failed attempts to establish adequate nutritional intake but poor access prevented long term use of this route of feeding. An investigation of bowel function indicated a jejunal stricture so a liquid diet was commenced along with a trial of jejunal feeding via a naso-jejunal tube. A percutaneous endoscopic gastrostomy tube with a jejunal extension (PEGJ) was inserted in November 2003 and a pureed diet with a fat based nutritional supplement was introduced. Subsequently, the patient was able to tolerate small quantities of normal diet, with only occasional vomiting. After three months of PEGJ feeding, body weight increased by 9.5kg resulting in an increase in body mass index from 16.4kg/m2 to 19.6kg/m2.
With an increase in the number of cases of sclerosing peritonitis, it is suggested that jejunal feeding could be considered as an alternative to parenteral nutrition.

FRACTURES IN PATIENTS ON HAEMODIALYSIS: CAN WE PREDICT THEM BY MEASURING BONE MASS DETECTED BY DIGITAL X-RAY RADIOGRAMMETRY

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The increase in the age of the dialysis population causes changes in bone metabolism such as osteoporosis.
The aim of this study was to evaluate the prevalence of peripheral fractures in haemodialysis patients relating the results with BMD measured by DXR.Studies were conducted on 168 haemodialysis patients (108 men and 60 women). Hand and forearm X-rays were taken and their clinical file was reviewed. The reference values were from a random sample of our population (n=247). The bone fractures were grouped as: a) Fractures due to fragility which occurred due to light to moderate trauma and in typical osteoporosis sites (colles, subcapital fracture of humerus, hip and rib). b) Traumatic fractures by known heavy trauma.The value of BMD in male dialysis patients was higher than in women. The women showed significantly lower values than the control population.
The prevalence of osteoporosis was 7% in men and 40% in women. The prevalence of peripheral fragility fractures was 4% in men and 15% in women.The patients who suffered peripheral fragility fractures had the lowest BMD compared with those who had had previous traumatic fractures and with those who had never had a fracture ($p<0.03$). The rate of cortical porosity was higher in patients with fragility fractures compared with those from the other two groups ($p<0.03$).
In summary, there is a higher risk of bone fracture in women than in men. The DXR is a useful, practical and accessibly available tool for identifying patients at risk of osteoporotic fracture in haemodialysis.

IONIC DIALYSANCE MEASUREMENT - A GREAT STEP FORWARD

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A major cause of morbidity and mortality for patients undergoing chronic haemodialysis is inadequacy of treatment. The importance of adequate treatment is evident and there is a need to know the treatment dose while a patient is being dialysed. On line conductivity monitoring allows the continuous, non-invasive and inexpensive measurement of ionic dialysate and KT/V calculation during HD treatment.
Method: For a period of 3 consecutive months we studied the feasibility, reliability and accuracy of this method in estimating the treatment dose delivered to each patient. Forty chronic patients were dialysed using a Gambro AK 200S dialysis machine equipped with Diascan biosensor, which allows the measurement of ionic dialysate correlated to the effective urea clearance. KT/V value is automatically displayed on the screen and all data could be downloaded to a PC and used as a tool for diagnosing patients and treatment optimisation. Methodology involved using the Watson formula for the estimation of the urea distribution volume. To further validate this method we performed a comparison between Diascan and a standard KT/V calculation respecting EBPG recommendation to avoid errors leading to false KT/V results.
Results and conclusion: There were no significant differences in estimated KT/V values by both methods. The repeated measurement of ionic dialysate guarantees the quantification of the dialysis dose delivered to the patient from the beginning of HD treatment. According to our experience, ionic dialysate measurement allows early detection of any problems that could affect the efficiency of HD treatment (dialyser malfunction, access dysfunction or recirculation).

INFORMATION TECHNOLOGY AND THE BENEFIT OF PATIENTS

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Any new therapy, innovation, idea introduced into a healthcare field must be primarily to the benefit of the person under anyone's care, this can then cascade to all healthcare professionals, with further benefits to the patient.
The introduction of computer software in the healthcare field is not new, indeed computer software aimed directly at renal replacement therapy is constantly being developed, with the expectations of the enhancement of patient care.
This abstract details the experiences of the author as a healthcare provider in a renal environment, whilst being a project leader in the introduction of computer software designed to enhance renal patient quality and care.
The introduction of change can be daunting in any situation, thus the introduction of a new technology into an environment can be difficult. The author therefore wishes to outline how this project emerged from infancy to a working ideal benefiting patients and healthcare professionals alike.
Paramount to the author was the wish that the project as a patient information system would benefit the patient and would enhance the healthcare professionals care towards that patient. Initially education and training was thought to be the driver towards successful implementation of the computer system, however at times this was not the case. Often re-enforcement techniques needed to be utilised towards all healthcare professionals in the understanding that such computer systems would benefit patient and healthcare provider. This would include all patient modalities of haemodialysis, CAPD and transplantation.

A CHALLENGING CASE OF DONOR AND RECIPIENT BELIEF

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Introduction to case: In July 2003, a man of 41 years became a living donor to his brother of 43 years. Whilst many renal units are familiar with increased numbers in their living donor programme, this case was special as both donor and recipient were Jehovah's Witnesses.
Care and management: The transplant preparation and work-up programme began one year prior to the transplant, but this was mostly because of physical complications in the donor before the first planned operation date in November 2002. There were many ethical dilemmas to discuss with the recipient and donor families and the whole renal team in the pre-transplant period. These cumulated in both the donor and recipient signing a 'Health Care Advance Directive' prior to the operation and this directive included details of whether they would accept blood transfusion, blood products, blood salvage and prolongation of life.
Evaluation: Prior to the operation, haemoglobin (Hb) levels were 15.9 g/dl (donor) and 12.2 g/dl (recipient). Both dropped their Hb levels by around 2 g/dl following the operation. Three months after the operation the recipient returned to work when his serum creatinine was 143 umol/l.
Conclusion: This paper will present the ethical dilemmas facing the team and the care and management of both donor and recipient in the pre-, peri- and post-operative phase. The renal care team learnt that with careful management of haemodynamics and good communication between the patients and staff, the challenges of different cultural and religious beliefs can be overcome.

UPDATE ON THAILAND REGISTRY ON DIALYSIS AND KIDNEY TRANSPLANTATION

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Objective & Method: Chronic renal failure in Thai patients has been treated with haemodialysis for more than four decades. Until now, there are 362 functioning dialysis units in the country and 201 centres were enrolled in this registry report. To update country status on distribution of service-demand, the registration forms were provided to all units. Data were collected, processed and confirmed by the data-providing units before returning for final analysis.
Results: The majority (45%) are in Bangkok or the peri-metropolitan area. Haemodialysis is available in all areas in Thailand whereas services for CAPD and KT exist only in 23% and 13%, respectively. Seventy percent of qualified nephrologists and dialysis nurses are working in Bangkok or the peri-metropolitan area. At the end 2001, 7,225 dialysis and KT patients (115 pMp or per million population) were alive, with new dialysis patients entering the Registry at 20 pMp/year. Our 5 year patient-survival rate is comparable to developed countries.Inadequate services and manpower exist in the rural areas. An equal number of patients to the Registry could not access into the services due to lack of financial support.
Conclusion: Our data demonstrate increasing demand on dialysis and KT services throughout the nation. Efficient networks are to be set up to provide patient-financial support, increased related facilities and enough manpower.

DONATING A KIDNEY TO A SPOUSE - EXPECTATIONS AND DECISION MAKING

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Aim: We investigated the decision making process and expectations that are associated with the donation of a kidney to a spouse.
Patients and Methods: 10 kidney donors to their spouses, (2 men, 8 women; 6-12m post-successful donation), underwent a structured interview: 10 questions regarding their pre-donation expectations; 10 questions about post-donation realization of these expectations; 13 questions about decision making.
Results: Prior to donation all 10 donors expected a general improvement in the quality of life (QoL) of their families; 3 expected an improvement in their economic situation and less dependence, higher esteem and better sexual relations with their spouses. After transplantation all 10 donors reported an improvement in their families' QoL; 8 said that their spouses were more considerate, more active in the household, and that their sexual relations had improved; 7 felt that their spouses respected and appreciated them more; 2 reported an economic improvement. Prior to donation 8 donors feared the possibility of rejection. All donors thought that a pre-donation workshop could help them to cope better. 7 donors thought that support groups could be beneficial for them.
Conclusions: The decision to donate a kidney to a spouse is generally motivated by the hope of improving the QoL of the recipient and the family. Most donors have no specific expectations regarding their marital relations or economic situation, and are pleasantly surprised by the improvement that they experience following successful transplantation. Transplantation centres should stress the improvement in the entire family's QoL to motivate kidney donations from spouses.

UPDATING THE PRACTICE OF HAEMODIAFILTRATION - A NURSE LED CHALLENGE

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The use of research within the health care setting to ensure practice is current and evidence based has become high on the political agenda. The nursing staff within a 3 bedded renal and hepatic Transplant High Dependency Unit have implemented change and updated practice relating to the delivery of Continuous Veno-venous Haemodiafiltration, to promote the use of evidence to inform practice, rather than opinion or ritual.
The strategies adopted to update practice were multifaceted, and involved the development of patient group directives, guidelines, protocols and training packages. A reflective cycle was utilised during implementation to focus upon and develop the different issues that had become apparent over the long term of the project. Many of these were not anticipated. Medical involvement tended to be minimal and essentially collaborative, and the project was nurse-led. This had many implications for the manner in which the changes were introduced. Cross reference to different nursing specialities identified in the literature that the nature of "nurse-led" initiatives remains a largely unexplored area, although the impetus as nurses to lead change appears to be a common phenomenon. The nature of nursing knowledge and the use of technology has been debated over many years, and this project has highlighted some of the main controversies, as well as the essential role of nurses in the advancement and development of highly technical renal nursing practice.

AN INNOVATIVE APPROACH TOWARDS NON-COMPLIANCE AMONG RENAL TRANSPLANT RECIPIENTS

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Background: Non-compliance (NC) contributes significantly to graft rejection and graft loss. NC is common among adolescents. During the last decade, 69 renal transplants were performed at our unit. Graft loss occurred in 6 patients; 4 of them were adolescents with non-compliance after transfer to an adult unit.
Case report: A 21 year old patient with prune-belly syndrome had undergone the first cadaveric renal transplantation at 6 years of age. He was seen regularly at 4 - 6 week intervals. Ten years later, chronic transplant nephropathy led to graft failure. Three years later, a second cadaveric transplantation was done. He was discharged with excellent renal function and transferred to an adult unit where the clinic intervals were extended to 2 - 3 months. One year later, plasma creatinine increased to 1000 µmol/l. A renal biopsy confirmed acute severe rejection. Despite the use of Tacrolimus, ATG and OKT3, the graft failed. He later admitted having been non-compliant for 3 months. Today, he is back on the waiting list.
New approach: The following measures to challenge NC have been introduced since.
• Individual instruction and education
• one afternoon session in the annual dialysis camp addressing the issue of NC
• Weekly or biweekly appointments if NC is suspected
• Follow-up at our unit until completion of school or vocational training
• Early anticipation of the transition to the adult unit
• An alarm wrist watch
Conclusions: New and innovative methods have to be developed to tackle the issue of non-compliance.

Education Posters

INFORMATION BOOKLET FOR PRE-RENAL AND RENAL PATIENTS

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Following a patients' needs survey carried out within our workplace a gap in up to date information was identified. It was decided to compile an information booklet aimed at both pre renal and renal patients. Patients were consulted throughout each stage of preparation and their suggestions and comments included in the content. Each member of the multidisciplinary team participated in the project ensuring all aspects of care and treatment were discussed. Each section has been enhanced by illustrations designed by a staff member. This nature of this book allows for each client to have the information relevant to their condition and the treatment they require. Everything from presenting features of chronic renal failure to transplant work-up, diabetes and pre renal clinic care has been included. Facilities are available to update information as necessary as developments occur. The booklet has been proof read by patients who have felt that the information included was relevant, useful and that they have benefited greatly from it.

SCHOOL OF DIALYSIS - TRAINING UP TO DATE

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In Serbia and Montenegro there are 56 haemodialysis centres, 24 centres that perform peritoneal dialysis and 5 centres for transplantation. The first haemodialysis in our country was performed in Clinical Centre Zvezdara in 1962, and the first peritoneal dialysis in the same Centre in 1963. The first steps in education of nurses into dialysis were made by the experiences of the staff and on the European guidelines.
Continuing education of Yugoslav dialysis and transplant nurses was established in October 1996 in the Clinical Centre Zvezdara as School of dialysis, conducted by Association of Yugoslav dialysis and transplant nurses. Since then, 198 nurses from Serbia and Montenegro as well as Bosnia and Herzegovina participated in this up to date training. The school coordinator is a nurse with great dialysis experience, who has written an official textbook The training consists of the theoretical and practical parts, followed by a rigorous exam. The school has improved the skills of all participants in the field of haemodialysis, peritoneal dialysis, transplantation and nephrovascular surgery, contributing to the uniform standards in renal care in the whole country. The participants promoted and conducted research in renal care and disseminated their knowledge through all of the dialysis centres. The School of Dialysis provides continuing education for renal care and update standards in all participating dialysis centres.

RENAL ASSISTANT PRACTITIONERS: THE INTRODUCTION OF ROLE SUBSTITUTION

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Problem: Longstanding difficulties with recruitment and retention of nursing staff continue to be a major obstacle to the planning of renal services.Purpose: By identifying the problem within our centre we were prompted to professionally develop our stable existing staff group (NVQ level 3, support assistants). We felt that some of the gaps and staff shortage issues may be helped and falling standards of basic nursing care/complaints would be alleviated/improved.
Design: A working group contributed to devising a core job specification for which the role was to be based. The NMC was contacted and the trust worked closely with the university regarding legal/accountability issues surrounding the role and competencies. Following selection the assistant practitioners were released from the clinical area for 16 weeks. The course involved achieving core competencies including, venopuncture, blood products, and medications. Throughout the course they worked closely with a clinical assessor to achieve their competencies.
Findings: Assistant practitioners have had a positive impact within the renal directorate, they now support registered practitioners where required and appropriate and have both the competence and confidence to undertake tasks which would have traditionally possibly placed unnecessary demands on qualified staff.
Conclusion: Evaluation demonstrates that this initiative has produced a development programme, which has enabled our trust to develop assistant practitioners to support qualified staff, maintain standards and deliver quality patient care.
Relevance: Recruitment and retention is a long standing issue. The implementation of this role will promote widening access to career opportunities, with a consistent, transferable approach to the development of support worker roles.

PREVALENCE OF WHITE COAT HYPERTENSION IN MILD ESSENTIAL HYPERTENSION

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Introduction: WCH is a well known clinical entity, defined by hypertensive (H) blood pressure (BP) values, which are obtained in office, and normal BP values got using ambulatory blood pressure monitoring (ABPM). It is becoming obvious that WCH is related to greater cardiovascular risk (CV) than normotension (N).
Aim: The prevalence of WCH is variable and it depends on the definition: age, gender, population. Our aim was to determine it in our group of patients.
Patients and methods: We analysed the group of 196 persons (103 with H -60 m 63 f ,and 93 with N -48 m 95f) aged from 18-55 years. BP was measured using mercury sphygmomanometer (RR) and Spacelabs 90207 monitor. H was defined as RR > 140/90 and ABPM > 125/80 mmHg, N as RR < 140/90 mmHg and ABPM < 125/80, WCH as RR >140/90 and ABPM < 125/80 mmHg, WCN as RR <140/90 mmHg and ABPM > 125/80 mmHg.
Results: Prevalence of WCH was 27.1%, WCN was 6.5% Men and women were equally present in the WCH (13 and 15, respectively), but there were no women in the WCN group. Persons with WCH have significantly more frequent positive family history (PFH) for H than N (71% vs. 40.4% $p<0.05$) and there were significantly less smokers (60.7% vs.22.6%; $p<0.05$).
Conclusion: The prevalence of WCH is high and ABPM is a useful tool in making a more precise definition of H. High incidence of PFH in WCH might be connected with increased CV risk observed in those persons.

PHOSPHATE BINDERS - A PATIENT INFORMATION

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To educate and coach the patients to become experts in their renal disease and treatment is one of the most important tasks for a nephrology nurse. In 2002, we attended a post-graduate education for nephrology nurses at the University of Gothenburg, Sweden. We studied a lot of different literature and realised that vascular calcification is a huge problem for patients on dialysis. Coronary- and aortic calcification is developing fast, even in younger patients.
We have noticed that many patients do not take their phosphate-binders as prescribed. This is, in our opinion, in general due to lack of information. We wanted to make an easily comprehensible patient information about how calcium and phosphate disorder can affect them negatively. The symptoms we mentioned in the poster includes hyperparathyroidism (HPT), since HPT is caused by unbalance between calcium and phosphate. We hope that our poster will be some help for nurses and make the patients aware of this severe problem. At the same time we hope we all get some ideas how to prevent vascular calcification.

MANAGEMENT OF A HAEMODIALYSIS PATIENT WITH COMBINED LATEX AND ETHYLENE OXIDE ALLERGY

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Management of a haemodialysis patient with combined latex and ethylene oxide allergy.
1. Introduction
2. Case report
3. Summary of suppliers and adjustments to standard procedures:
a. Equipment and disposables needed for dialysis.
b. Equipment needed for insertion of temporary central venous catheter.
c. Equipment for creation of permanent vascular access.
d. Contingency plan for failure of vascular access.
We describe the management of a haemodialysis patient who had had anaphylactic reactions to latex and ethylene oxide (ETO) in a renal unit that is attached to a District General Hospital. The focus is on the avoidance of ETO exposure for the patient, since many hospitals will have a policy for the handling of patients with a latex allergy. Suppliers of suitable equipment for dialysis, insertion of temporary catheter and creation of permanent access with a polytetrafluoroethylene (PTFE) graft are summarised. A list of manufacturers who were approached, but could not provide any of the equipment for clinical or legal reasons, is given, since this should be of use for units faced with the same problem. For procedures for which ETO free equipment could not be obtained we describe successful modifications to the standard protocols and the legal precautions taken in order to protect ourselves from litigation.

IMPROVING PERMANENT VASCULAR ACCESS IN HAEMODIALYSIS PATIENTS BY DEVELOPING A NURSE CO-ORDINATED SERVICE

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An Advanced Nurse Practitioner (ANP) role in renal medicine with an emphasis on vascular access was developed to improve the co-ordination of the vascular access service. The aim was to increase the number of fistulae and to better monitor and pre-empt problems with the current vascular access and to ensure that all patients requiring or receiving haemodialysis have an agreed vascular access plan. It includes organising and prioritisation of clinics for vascular access assessment and liaising between surgeons, interventional radiologists and physicians. The role has also been developed to support the ongoing prospective data collection and audit of all procedures and interventions. Furthermore, the ANP has introduced and co-ordinates fistulae access flow monitoring and initiates any necessary interventions to preserve the longevity of vascular access. We have shown improvement in primary AVF construction, with a reduction from 10 to 5 months following dialysis initiation. The number of patients dialysing with a fistula has risen from 80 to 130 since 1999. Improvement in monitoring of vascular access has occurred with an increase in the number of interventional radiology procedures preventing fistula failure. All patients receiving haemodialysis have a clear plan for vascular access and only 8/243 patients remain unsuitable for fistula construction.
The development of the ANP role has improved the monitoring and co-ordination of vascular access and increased the number of patient's dialysing with a fistula. It has provided a better co-ordinated vascular access service and is essential to improve the service for the patients and potentially improve patient mortality.

DIALYSIS AND PLASMAPHERESIS - ADVANTAGES OF DOING BOTH TECHNIQUES SIMULTANEOUSLY

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Purpose: Demonstrate the advantages of doing both techniques simultaneously.
Material and methods: Monitor of Plasmapheresis, Monitor of Dialysis, patient with vascular access, kit of Plasmapheresis, kit of Dialysis, extensor in "Y". Monitoring the patient; Using aseptic technique, adapt extensor in Y, to each line and filling in; Adapt both lines (arterial/venous), of extensor in Y located in the arterial and venous borders of the access; Start Dialysis with a flow of 150 ml/min and start Plasmapheresis with a flow between 50-150 ml/min and following step program the monitors.
Results: On the one hand, the use of blood plasma and albumin facilitate the coagulation of the system, that is why an efficient hypo coagulation of the system is needed. On the other hand, we can save time, and the access will be less handled.
Conclusion: During observation, the patients did not suffer any kind of haemodynamic disorder. Apart from the coagulation of the system, which often occurs through the use of blood plasma and albumin, no other disorder occurred. For this reason, an efficient hypo-coagulation of the system is needed. We believe that doing both techniques simultaneously time can be saved and the access will be less handled. The patients calcium levels remained unchanged during the treatment, which does not occur with Plasmapheresis alone.

"VASCULAR ACCESSES"- A RENAL PATIENTS PERSPECTIVE

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Introduction: Today the renal patient has become more important in the HD context. Because of his/her active participation in this treatment it is essential to get good results.The centralization of the attention on the technical aspects of treatment has now shifted towards the psycho-social and cultural aspects of the patient.Vascular access is very important in HD treatments and there is a strong inclination to assess the scientific outcome of treatments when evaluating them and to forget the advantages, disadvantages, complications and benefits for the patients. The patient's perspective is most of the time omitted or neglected in the middle of all the other knowledge.
Methodology: We propose to present an analytical study that gives some conclusions about the real perspectives that the patients have about their own vascular access.The study will follow this Chronogramme (Year 2004):
January - March: Theoretical aspects
1st - 15th April: Sample selection and carry out surveys
16th - 20th April: Pre-test application
21st - 30th April: Surveys application / collect information
May - July: Analysis / Discussion
The sample selection is restricted to patients belonging to three centres of HD of Oporto - Portugal.
Objectives: a) To sensitise health professionals to the previous evaluation of scientific concepts about vascular accesses with the global perspective of the patients.
b) To relate variables with patients' perspectives.
c) To present score results.

THE EFFECT OF SELF-ADMINISTRATION ON HAEMOGLOBIN AND DOSE WHEN CONVERTING FROM SUBCUTANEOUS TO INTRAVENOUS ADMINISTRATION OF EPOETIN ALFA

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Objective: To investigate the effect on Hb and dose when converting from patient administered SC epoetin alfa to nurse dispensed IV injections.
Design: 156 haemodialysis patients were converted from SC to IV administration of epoetin alfa. Monthly bloods and epoetin alfa dose were monitored over a period of eight months. Data were compared between three subgroups: Patients who self-administered EPO at home (HOME), those who brought EPO from home for nurse administration (BROUGHT) and those who received the drug from unit stock (UNIT).
Findings: Demographics were similar in all groups. There was no significant change in Hb in any group. Overall, there was a 9.24% (p=0.012) dose increase after 8 months of IV administration. HOME patients had a smaller dose increase (7.2%, p=0.089) than UNIT patients (27.7% p=0.002). Uncertainty regarding the storage and transport of epoetin alfa in the BROUGHT group (n=47) meant that they were excluded from the analysis.
Conclusions: As UNIT patients only altered route of administration, the true dose increase resulting from conversion from SC to IV is 27.7%. The difference between dose increases in UNIT and HOME groups suggests that, in this population, 'non-compliance' affected dose efficacy by 20.5%.
Relevance: Unit based administration of EPO is recommended to maximise benefit. Despite this, the 27.7% dose increase when converting from SC to IV administration is significant and has great cost implications for haemodialysis units.
Results:

	Pre/Post Hb (mean)	Pre / Post EPO dose iu/kg (mean)
Alln=156 n=156	pre 11.1 / post 11.0 p=0.56	Pre 131.2 / Post 143.3 p=0.012
UNIT n=43	Pre 11.1 / Post 10.7 p=0.25	Pre 119.9 /Post 152.7 p=0.02
HOME n=66	Pre 10.9 /Post 11.0 p=0.84	Pre 131.2 /Post 140.6 p=0.089

BONE DISEASE IN DIALYSIS PATIENTS

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Bone disease in dialysis patients may be characterized by either high or low bone turnover. Intact parathyroid hormone (iPTH) is the most widely used parameter in the estimation of bone turnover rate: in patients with normal bone turnover rate sera iPTH values are approximately 3 times the upper normal reference range. The lower iPTH, the higher the probability of low bone turnover. In patients with sera iPTH values more than 8 times higher than the upper reference range, there is a high probability of high bone turnover; values 3-8 times higher than the upper limit are not reliable in the estimation of bone turnover rate. In 76 haemodialysis (HD) patients, aged 22-81 years, on HD 6-233 months, and in 23 peritoneal dialysis (PD) patients, aged 34-82 years, on PD 6-98 months, iPTH values were estimated in the sera using IRMA method (normal reference range 1.0-6.0 pmol/L). The patients were divided into groups according to their serum iPTH values: I.1.0-10., II. 10.1-20.0, III.20.1-40.0, IV. >40.0 pmol/L. Results were expressed as the percentage of HD/PD patients that belonged to the study groups. Group I. 47.4/34.8, Group II. 18.4/21.7, Group III. 21.1/21.7, Group IV. 13.1/21.7. The majority of both HD and PD patients had low bone turnover disorder, whereas in a minority, it was rather probable that the bone turnover was high, i.e. that hyperparathyroidism was the predominant disorder.

A FLOWCHART FOR BLOOD VOLUME CONTROLLED ULTRAFILTRATION

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Blood volume controlled ultrafiltration (BCU) is a method where ultrafiltration is actively regulated on relative blood volume (RBV) and stops before critical blood volume (RBVcrit) is reached. We had problems implementing this option. RBVcrit or dryweight (DW) were constantly changed and there was no continuity. We wanted to develop a tool which helped the nurse to decide which parameters to adjust.
Patients suitable for BCU were selected: cardiac problems, haemodynamic instability, low wellbeing without hypotension during dialysis. Fresenius 4008H machines with Blood Volume Module (BVM) and BCU were used. BVM curves were analysed for two weeks without BCU. RBVcrit was assessed during this period. 4 strategies were defined (DW lower, higher, RBVcrit lower, higher) and linked this to patient characteristics through decision nodes. The flowchart guides the decision to adjust either DW or RBVcrit. Next dialysis, the flowchart is used again.
The chart was tested in the patient group first with and later without BCU. 90% of patients had no complications on BCU. If well being on dialysis was low without hypotension, an improvement was seen. When BCU was stopped, more hypotension and less well being was seen.
BCU requires constant evaluation and registration. Our tool helps in deciding which parameters to adjust. It is well accepted by staff, it is useable in practice and improves dialysis wellbeing and reduces hypotension in 90% of BCU suitable patients.

PAIN COMPARISON BETWEEN FROZEN OR AMBIENT NEEDLES TO PUNCTURE THE ARTERIOVENOUS FISTULA

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Background: The pain is a subjective sensation of disturbance or suffering originated as a result of noxious stimulations that indicate "tissular" damage or illness of any type. It is one of the most relevant sensorial experiences by which a person is aware of suffering an illness or an external aggression related to acute pain.
Objective: We aimed to compare the grade of pain depending on puncturing with needles to different temperatures (ambient versus frozen -8ªC) in the AVF.
Methods: The sample included 20 men and 38 women. Patients were told to pay special attention to the sensations experienced when being punctured. Then, the same nurse punctured to the same patient using needles at different temperatures. After each puncture the patient was asked about the grade of pain throughout the pain CADD-PCA scale. In this scale the patient chooses a "face" with the expression most similar to the pain experienced. Each "face" corresponds to a mean number.
Results: Our data indicate that frozen needles to -8ºC produce less pain than those at ambient temperature (frozen: 1.33±1.59 vs ambient: 3.61±2.19; p<0.05). No significant differences were found in the other studied variables (sex, vascular access and age).
Conclusion: Needles temperature should be considered in patients in haemodialysis in order to diminish the grade of pain and improve their quality of life.

KINETICS OF 131IODINE (131I) TREATMENT IN HAEMODIALYSIS PATIENTS AND RADIATION EXPOSURE OF THE DIALYSIS NURSE

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Introduction: This report describes the experiences with two chronic dialysis patients who were treated with 131i because of hyperthyroidism. Since dialysis patients lack normal renal excretion, circulating 131i (not taken up by the thyroid gland) must be removed by dialysis. Data on 131i kinetics during dialysis are scarce. Therefore, we monitored 131i removal during haemodialysis. In addition, we documented the radiation exposure of the dialysis nurses to verify if the newly developed protocol would be safe with regard to radiation exposure. This protocol was based on the following principles: keeping contact time with the patient as short as possible, keeping distance to the patient and using protective clothing and a lead shield.
Haemodialysis started 20h after administration of 131i. During haemodialysis (4h) radiation at a distance of 1 m from the patient and from the effluent was measured. Dialysis nurses wore pocket dosimeters to register radiation exposure.Kinetics for one patient.
The administered dose of 131i I was 555 MBq. Uptake by the thyroid gland was 275 MBq (calculated dose). Elimination during the first dialysis was 151 MBq (66% of free circulating 131i).
Total radiation exposure of the dialysis nurses (n=2) during this first haemodialysis was 7 and 4 µSv, respectively. Results for the second patient were comparable.Conclusions: Haemodialysis effectively removes circulating 131i. Adherence to our protocol results in minimal radiation exposure for the personnel. Good co-operation between members of the multidisciplinary team is essential.

THE PATIENT'S COMORBIDITIES SCORE DOES NOT PREDICT ACCURATELY THE WORKLOAD OF HAEMODIALYSIS NURSES

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Background: The objective of this study was to examine whether the patient's modified Charlson comorbidity score is a predictive factor of nursing workload in haemodialysis patients.
Methods: Within a cross-sectional study of 553 haemodialysis patients treated at 21 facilities, nurses' workload for each individual patient was assessed by the concerned nurses according to a 4 points scoring system: stage1 (haemodialysis session with native fistula and without complications), stage 2 (haemodialysis session: with difficult fistula/with catheter/without heparin/ with haemodiafiltration/with large fluid removal), stage 3 (haemodialysis session with frequent intradialytic complications), and stage 4 (haemodialysis session necessitating a constant supervision by a nurse). The modified Charlson comorbidity score was also recorded and the mean modified Charlson score calculated for each stage of workload.
Results: Overall modified comorbidity score was 4.8 (SD 2.4). Mean scores + SD were 4.5 + 2.2 for stage 1 (n=266), 4.3 + 2.1 for stage 2 (n=134), 5.7 + 2.6 for stage 3 (n=147) and 7 +3.6 for stage 4 (n=8) respectively.
Conclusions: No substantial variation in comorbidity scores exists between patients with uncomplicated haemodialysis sessions (stage 1) and patients with technically more demanding haemodialysis sessions (stage 2). A specific nurses' workload scoring system appears better suited than the modified Charlson's comorbidity index to evaluate the effective workload in the dialysis unit and adapt the required nursing staff.

HAEMODIALYSIS CANNULATION: IS IT PAIN FREE?

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The cannulation of an arteriovenous fistula (AVF) or graft is perceived to be uncomfortable. The aim of this study was to examine patient's perceptions of pain during cannulation prior to haemodialysis.
Patients were asked to rate any discomfort during cannulation using a visual analogue scale, rating pain from 0 to 100. 0= no pain, 100=extreme pain. The nurse performing the cannulation also recorded the straightforwardness of the procedure and previous cannulation experience.
114 haemodialysis patients were involved in the study; 62 (54 %) male, 52 (46 %) female. 100 patients (88 %) had AVF, 10 (9 %) had leg grafts and 4 (3 %) arm grafts. 72 used subcutaneous lignocaine; of the remainder 3 used cream and 39 used nothing.
The average rating of pain from subcutaneous lignocaine was 31/100, however the ratings varied from no pain (0) to extreme pain (100). There were few difficult cannulations (n<7); most were rated as "easy" (80%). Nursing staff's experience of cannulation varied from a few months (13%) to more than 1 year (87%).
The results show that cannulation is a painful experience, but that the level varies tremendously between individuals. It is possible that the level of pain relates to ease of cannulation as indicated by the mild pain reported. This study adds to our knowledge regarding nurses' awareness of how much pain their patients experience during cannulation, and raises the question "Is it possible to be truly objective when discussing needling pain?"

LOOKING INTO NEPHROLOGY NURSES' BURNOUT SYNDROME

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Our group decided to: a. study the factors attributing to the appearance of nephrology nurses' burnout syndrome, b. evaluate these factors, and c. propose some coping mechanisms.
An anonymous and personal questionnaire was sent by post to all nurses in the 114 nephrology centres of our country. The questionnaires from each centre were returned in a sealed and prepaid envelope. A total of 900 questionnaires were returned. Statistical analysis was conducted with SPSS.
Nephrology nurses are working in the field for 13.53 (1-32) years, are 36.21 (21-57) years old and are mostly women (89.30%). The majority of our nurses are tertiary education graduates (53.10% college graduates and 1.99% university graduates). Seventy eight percent of our nurses feel stress. Alas, the results show that working place stress negatively affects the nurse's personal life! Working load (64.3%), shortage of staff (45.9%), and relationships with colleagues (20.77%) are the main reasons of stress, as reported by nurses. The most common measures to cope with stress are: discussion with colleagues, rest/exercise, smoking, having a break and a cup of coffee/tea. During last year 33.96% of our sample needed almost 10 days leave of absence.
Our research helped to record the demographic data of our country's nephrology nurses, but mainly to spot any symptoms of burnout. Following, the analysis of our data we concluded in some methods of spotting early symptoms of burnout and some coping mechanisms.

FREQUENCY, RISK FACTORS AND PREVENTION OF TRANSMISSION OF HEPATITIS C VIRUS INFECTION IN PATIENTS ON HAEMODIALYSIS

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We investigated the frequency and modes of transmission of hepatitis C (HCV) in 227 patients (pts) on HD (1991-2003). Serum samples were tested for HCV antibodies (ELISA or RIBA) or HCV RNA (PCR). 58/227 pts (25,5%) were found positive (HCV+). These pts had longer duration on HD (M±SD 11.9±7.2,p<0.0001) and had received more blood transfusions (M±SD 118.4±39.8,p<0.0001) than HCV- pts. 22/58 pts were found HCV+ in 1991 (initiation of screening tests) and 36 pts (62%) from 1992 to 2003. 32/58 pts were on HD for (M±SD) 5.3±5.1 years while 4 pts were found HCV+ on initiation of HD. 20/32 pts on HD (62.5%) became HCV+ from 1992 to 1994.Since 1994 the incidence of new HCV+ pts was reduced (12 pts, 37.5%) because of the beginning of machine sterilization between HD sessions. Pts on HD machines, common with or neighbouring HCV+ pts, who became HCV+ (1992-2003) were more than HCV- (p<0.0001). During 2003, HCV+ pts undergo HD on separate machines and no seroconversions were observed. 23/58 HCV+ pts (39.6%) died (only 1 pt due to acute C hepatitis), 8 pts (13.8%) had a renal transplantation, 16 pts (27.6%) were transferred to other HD units and 11 pts are still on HD in our unit (11.9% of the 92 pts on HD). Hepatitis C represents a serious problem in pts on HD. Longer duration on HD, blood transfusions and HD on machines common or neighbouring HCV+ pts are important risk factors. Machine sterilization between HD sessions, HD of HCV+ pts in machines reserved for them will reduce the risk of HCV transmission.

HEPATITIS C IN THE HAEMODIALYSED PATIENT

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Hepatitis C raises many problems in haemodialysis, not only by its high prevalence, but also by its progress towards chronicity with the risk of cirrhosis and cellular hepatic cancer.
Objectives of this prospective work:
· Concerning 2 groups, the first one is formed by 74 known HCV positive patients and dialyzed in 8 centres of the region and the second one 153 patients including 74 patients of the first group
· Draw the epidemiological, clinical and biological profile of hepatitis C
· Discover viral ARN and optimise a new technique of research for the ARN by the RT-PCR
· Study the preventive methods of the viral hepatitis C by insisting on the role of the medical and auxiliary medical staff and especially well follow the precautions of hygiene established by the mission control of the patients (CDC, Centre for Disease Control) of Atlanta.
Concerning the dialysis patients: washing and disinfecting instruments, machines and soiled syringes, frequent hand washing and wearing disposable gloves etc.
Results :- 98.64 % of the patients are asymptomatic
- Average of transaminases is normal
- the search for antibody anti VAC carried out by test ELISA, positive in 86.5 %
- 4 genotypes found (1b; 1a; 1a+1b; 4)
Conclusion: The effectiveness of antiviral treatment (Interferon) is insufficient. Hence the role of the preventive treatment remains primordial.

SELF-CARE AMONG PATIENTS RECEIVING HAEMODIALYSIS

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The purpose of this study was to examine the self care agency of patients undergoing haemodialysis. The study is a descriptive, correlational design and analysed by using descriptive statistics. The sample consisted of 140 patients, included 75 men and 65 women. Participant ranged in age from 18 to 77 years with a mean age of 51 years. Self-care agency was measured by the Exercise of Self-Care Agency (ESCA) Scale (Turkish version). The maximum score of 140 indicates a high degree and the minimum score of 35 indicates a low degree of exercise of self-care agency. It was found that mean self care agency rate of the patients in general was 92.59 + 14.29 (range 58-125). Results indicate that self-care of the male patients was higher than the female patients (p<0.05). Employed patients had higher ESCA scores when compared with unemployed patients (p<0.05). Moreover, there was a significant relationship between ESCA and different dialysis units (p<0.05). The study provides important information for health care providers as they design interventions for patients receiving haemodialysis.

INFECTION AND HAEMODIALYSIS WITH SPECIAL REVIEW OF HEPATITIS B AND C INFECTION

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In patients on haemodialysis the most important problem is hepatitis B and hepatitis C infection.
In our Institute 48 patients were tested on HbsAg and anti - HCV in correlation to: age, sex and duration of haemodialysis treatment. The results showed presence of HbsAg in 14,6% of the examined patients and 56,2% of HCV positive patients. Simultaneously persistence of HbsAg and HCV was determined in 10,4%.
Since 1988 we permanently perform vaccination against hepatitis B in patients on haemodialysis and medical staff, so from that period we haven't any registered cases of active hepatitis B.
Infective complications in haemodialysis patients are common and they are second reason for death in these patients.
Correct manipulation with vascular access decreases the incidence of bacterial infection.
Vaccination against HBV decreases the prevalence of this infection significantly.Significant decreasing of infections is achieved with rigorous measures of protection.

EVALUATION OF SUBCUTANEOUS USE OF SELF ADMINISTERED RECOMBINANT ERYTHROPOETIN (rHuEpo)

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Aim: To evaluate the efficacy and flexibility of the subcutaneous use of self-administered rHuEpo.
Method: We studied 7 patients (5M, 2F) with mean age of 64,1 and mean duration on dialysis of 88,3 months. In these patients we converted the intravenous rHuEpo to subcutaneous after an intense education on the use of a pen for self-administration. Haematocrit, haemoglobin and ferritin levels were measured at the beginning and 1 and 2 months after the conversion to subcutaneous use. We also calculated the amount of rHuEpo per Kg body weight and rHuEpo per gr Hb.
Results: Four of the patients continued rHuEpo self-administration throughout the study, while the remainder had their dose injected by the nursing stuff. No significant differences were noted regarding the values of Ht, Hb, ferritin, units of rHuEpo/Kg body weight or units of rHuEpo per gr Hb.
Conclusions: Subcutaneous use of rHuEpo once weekly is well tolerated and as effective as the IV use thrice weekly, in order to maintain the target levels of Hb in patients on haemodialysis. The subcutaneous use of rHuEpo provides a flexible tool for the correction of anaemia, according to the individual needs. The subcutaneous administration of rHuEpo once weekly encourages patients' self care and active participation on therapeutic implementations, while this duty is taken off the nursing staff.

D.O.T.-THE OPPOSITE TECHNIQUE

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We are a group working with "Access to haemodialysis".
The needle is normally inserted with the point towards the skin. We are researching the effects of doing the opposite, that is with the point away from the skin, which we believe will give a smaller hole. Our project has been in progress since March 2003. Many patients in haemodialysis experience pain when the needle is inserted and have a long compression time when the needle is removed. We are researching whether the pain and compression time are effected by the method of inserting the needle.We have enrolled 90 patients distributed over 9 different hospitals. Each patient is chosen according to sex, age, the age of the fistula and ability to comprehend the project.
Each patient is tested 10 times by the same nurse, as each nurse inserts and compresses differently .We register the pain experienced with a VAS scale and the compression time with a stop watch.
We expect to be finished with the testing by early April and the analysis of the data in June.

VASCULAR ACCESS CONTROL IN HAEMODIALYSIS

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Introduction: Maintaining good vascular access is decisive in the survival and the quality of life in patients with chronic kidney failure. Objectives: Evaluate the treatment reliability of using deep veins in AVF autology and heterology disfunctions or obstructions in our centres.
Materials and methods: We studied a total of 100 therapeutic procedures from a group of 78 patients (46 males, 32 females) with an average age of 65 (20-88), AVF 93%, and heterology 7% over a period of 2-5 years.
Results: the most frequent causes for suspicion of a stenosis were: low arterial flow problems 47%, high venous pressures 22%, AVF not functioning 23%, poor development 7%, distant vein stenosis 60%, vein exclusion 18%, arterial stenosis 8%, vein union stenosis 1%, thrombosis 8% and reduction of flow 75%.
Conclusion: the deep vein treatment has been demonstrated to lengthen the life of accesses. The results of our series show that an AVF with few possibilities of therapeutic action and with little help from vascular radiology can be assisted, this gives greater vascular access control.

DOES A HAEMODIALYSIS PATIENT'S ECONOMIC STATUS AFFECT NUTRITIONAL INDICES?

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Aim-Background: The family income of haemodialysis patients governs, to some degree, their nutrition as to the composition, quantity and quality of the food intake. The aim of this study is to investigate if differences in monthly income of HD patients affects their nutritional status.
Material-Methods: 516 chronic HD patients were asked privately to categorize their family financial status into four groups according to their monthly income: Low if it were less than 300 Euro, moderate from 300-600, Satisfactory 600-900 and High if it were>900 Euro. In these patients body weight (BW), body mass index (BMI), PreAlbumin, Albumin, Cholesterol, normalized protein catabolic rate (nPCR), Serum creatinine (SCr), Blood urea and delivered (D) Kt/V were assessed. Additionally, age, length of time on haemodialysis, the percentage of diabetics and C-reacting protein (CRP) as index of systemic inflammatory reaction were all estimated.
Results: Between low and high income groups (where differences would be more prominent) the differences in Body Weight, serum Cholesterol and serum Creatinine (p<0,05) were all statistically significant.
Conclusions: Monthly income may affect certain nutritional parameters in chronic haemodialysis patients.

DOSE ESCALATION FROM A LOW DOSE IN LONG-TERM THERAPY WITH SEVELAMER HYDROCHLORIDE (RENAGEL)

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Objective: We investigated a dose-escalation method combined with nursing intervention that would enable long-term treatment with Renagel without encountering abdominal symptoms that would otherwise be expected to occur frequently in Japanese patients.
Methods: We studied 263 dialysis patients who were attending our hospital and had a serum phosphorus level of 4.5 mg/dL or higher. The patients were given Renagel in addition to phosphate binders already being taken. Treatment was started at 3 tablets (750mg)/day, and the dose was escalated by 3 tablets every 2 weeks. Treatment compliance and adverse reactions were checked at each dialysis visit, and a nursing plan was developed.
Results: 1) A total of 96% of patients were still receiving treatment in week 12, at which point 21% were receiving 3 tablets, 56% were receiving 6 tablets, 22% were receiving 9 tablets, and 1% were receiving 12 tablets. 2) The sensation of abdominal fullness experienced as a gastrointestinal symptom peaked in week 1 (21% of patients), and constipation peaked in week 3 (12% of patients). These symptoms later decreased due to habituation. 3) The incidence of symptoms increased transiently when the dose was increased but later decreased again. 4) The mean serum phosphorus value decreased from 6.26 mg/dL to 5.50 mg/dL, and the target value of 4.5 mg/dL or lower was achieved in 15% of patients.
Conclusions: The development of individual nursing plans and dose escalation from a low dose allowed extended treatment while suppressing abdominal symptoms and was useful for controlling serum phosphorus.

AMINO ACID BASED PERITONEAL DIALYSIS SOLUTIONS ARE EFFECTIVE TO DEAL WITH MALNUTRITION

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Malnutrition is a common problem in dialysis patients. In addition, malnutrition is also associated with high mortality rate. Dietetic consultation and parenteral nutrition are among the options to deal with malnutrition. Recently, amino acid based peritoneal dialysis (PD) solutions have been an alternative approach in these patient populations.
Therefore, we wanted to test the efficacy of amino acid based PD solutions in the treatment of malnutrition in our PD patients.
Sixteen patients (10 F; 6 M: mean age 53,3 ± 11,5) with low serum albumin level (less than 4 g/dL) were included in the study. Baseline and after three months of treatment with amino acid based PD solutions, biochemical parameters, body mass index (BMI), protein catabolism rate (PCR), subjective global assessment (SGA) and lean body mass (LBM) by dual-energy x-ray absorptiometry (DEXA) were measured.
Thirteen patients completed the study. Two patients suffered from bacterial peritonitis during the study period and were excluded from the analysis. Only one patient experienced diarrhoea unexplainable by other causes and did not tolerate amino acid based PD solutions. There were no other side effects. At the end of the study period, BUN, serum albumin, protein catabolism rate (PCR), SGA increased but high-density lipoproteins (HDL) decreased significantly compared to baseline levels.
In conclusion, amino acid based PD solutions are safe and effective to treat malnutrition. However further studies are needed to evaluate the efficacy of amino acid based PD solutions on survival rates.

WHY SHOULD YOU HAVE PROBLEMS BECAUSE OF INAPPROPRIATE DIET? WHAT CAN YOU EAT?

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Electrolyte imbalances, especially hyperphosphataemia, hypervolemia and malnutrition are consequences of poor knowledge of dietary requirements, therefore we decided to organize education on what constitutes a proper diet. In our dialysis centre two day workshops were organised, led by Mr. Jo e Lavrinec, dietitian from The General Hospital Jesenice. Results of these workshops are presented on this poster.
The poster shows which foods are to be avoided and how can they be replaced.Consequences of diet breaks are shown. I chose regional specific foods.My aim was to present a poster, attractive for patients, which was simple, instructive and comprehensive.
In 2003 we educated 86 patients and their relatives in our dialysis centre.The majority of the education was done in workshops, or through individual conversation with patients or their relatives.
We educated 31 females and 56 males. Average age was from 50 years, but the majority of patients were aged from 60 to 75 years. 22 were diabetics, 11 were on PD. We also educated 7 predialysis patients.

BODY MASS VARIATION OF PERITONEAL DIALYSIS PATIENTS AND THE RELATIONSHIP OF THIS VARIATION WITH DURATION OF DIALYSIS

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The increase of the body mass of the patients on peritoneal dialysis is a common problem. In this study, the variation of the body mass index (BMI) and the relationship of this variation with the duration of the dialysis has been investigated.The study was carried out in the Peritoneal Dialysis Unit of the Medical School of Cumhuriyet University. 16 women (38.1%) and 26 men (61.9%) with an average age of 46.6±14.4 and an average dialysis duration of 23.38 ±12.10 months were included in the study. The BMI of the patients was 23.35±39 before the dialysis and 23.78±3.9 after the dialysis. The patients were divided into two groups; group 1 consisting of 30 patients gaining weight during the treatment and group 2 consisting of 12 patients losing weight during the treatment.
When the BMI values which were measured before and after the dialysis were compared, the difference was significant ($p<0.01$) and there existed a positive, mid-level and statistically insignificant correlation between this variation and the duration of the dialysis ($p>0.05$). Before the dialysis, the BMI of the patients in group 2 was 25.10±4.51, after the dialysis this value was 23.68±4.51 and the duration of the dialysis was 24.08±14.4 months. The BMI variation was statistically significant ($p<0.01$) and had a positive, low-level and statistically insignificant correlation with the duration of the dialysis. These results demonstrate that the peritoneal dialysis has a positive effect on the body mass and that this effect increases with the duration of the dialysis.

Paediatric Posters

LIFE QUALITY OF CHILDREN IN RENAL REPLACEMENT THERAPY

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Objective: In chronic renal failure, the disease itself and its treatment affect significantly the life quality and standard of the patients and their families. In this study, we investigate how the treatment modalities affect the life quality of the patients and their families in our region.
Methods: We performed modified Pcasee method. The first group had 25 patients having renal replacement treatment including 16 with peritoneal dialysis (PD), 7 with haemodialysis and 2 with transplantation, the second group was a control group with 25 children. Physical, mental, emotional, social, economic, and dysfunction and ego related questions were asked.
Results: The mean age for the control group was 14, 8 years, for the study group was 14, 7 years. Female/male ratio for the both control and study group was 12/13. The life quality score for the control group was 88.9%, for PD 77.8 %, for haemodialysis 72.3 %, and for transplantation patients was 98.6%.
Conclusion: Patients in the study group had an acceptable good score compared to the control group. This shows that they have a positive view for life. Transplantation patients had even better score than the control group, showing that their life standard and the expectancy from the life increases after transplantation.

THE INFLUENCE OF THE SOCIO-ECONOMICAL STATUS AND INTELLECTUAL LEVEL OF THE FAMILIES LIVING IN OUR REGION WHO HAVE CHILDREN ON THE RENAL REPLACEMENT THERAPY

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Objective: Socio-economical status and the intellectual level of the families are supposed to influence the renal replacement treatment in children. The purpose of this study is to investigate the effects of these factors on the treatment in our region.
Methods: A questionnaire was prepared and 25 patients having renal replacement treatment and their parents were asked to complete it. Questions included clinical, socio-economical condition and life quality of children.
Results: The patients were investigated in three groups. The first group included the patients having PD (n=16). The second group included the patients having haemodialysis (n=7). The third group had two patients with a transplant. All patients were covered by government health insurance. The patients with PD had chance to continue their education, but significant number of the patients with haemodialysis had an interruption of their education programmeThe patients with PD were more involved social activities and had hobbies more significantly than the group of haemodialysis. Of 25 patients, 18 including the ones with PD thought that PD was a better treatment modality, only 5 patients were happy with haemodialysis, all patients wished to have a transplant in the future. One patient was in high, 3 in middle and the rest of the patients were in low socio-economic status. Of these 21 patients, the majority of the parents were in low intellectual level.
Conclusion: Our results showed that chronic renal failure mainly develops in children of the family with low socio-economical and intellectual level in our region. Before transplantation, PD seems to be a better alternative for this group.

PERITONITIS IN CHILDREN: THE EFFECT OF PERITONEAL DIALYSIS MODALITY AND ADEQUACY

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Objectives: The purpose of this study was to compare the incidence of peritonitis and to evaluate whether peritoneal dialysis adequacy could effect the development of peritonitis in children on continuous ambulatory peritoneal dialysis (CAPD) and automated peritoneal dialysis (APD).
Methods: This study included a total of 83 children (41 girls, 42 boys), aged 1 to 22 years (average 11.48±5.17 years) during an 8-year period (from October 1995 to December 2003). Adequacy of peritoneal dialysis was assessed using Kt/V (urea) and a standard peritoneal equilibration test (PET). Patients were defined as high (H), high-average (HA), low-average (LA), and low (L) transporters. Statistical evaluation was made by Mann-Whitney U and Student's t-tests.
Results: Total observation period was 2202 pt-mnths (1157 pt-mnths on CAPD; 1045 pt-mnths on APD) and the overall incidence of peritonitis was one episode (ep) /19.66 pt-mnths (1/23.1 pt-mnths on CAPD; 1/16.88 on APD)(p>0.05). Mean Kt/V on CAPD and APD was found 2.11±0.83 and 2.09±0.79, respectively (p>0.05). No correlation was found between Kt/V and frequency of peritonitis (p>0.05). PET results showed that the groups consisted of 9.5% H transporters, 49.3% HA transporters, 36.9% LA transporters and 4.1% L transporters. The peritonitis rates were 1/28.4, 1/24.5, 1/18.6 and 1/12.8 pt-mnths for L, LA, HA, and H, respectively (p< 0.05).
Conclusions: Although, patients on CAPD have lower peritonitis episodes than APD, peritonitis rates are no different between two modalities. Additionally, higher peritoneal transport is associated with increased risk of peritonitis. Kt/V has no influence on peritonitis.

Peritoneal Dialysis Posters

INVOLVEMENT OF COMMUNITY NURSES IN THE TREATMENT OF PERITONEAL DIALYSIS PATIENTS

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Several studies have shown that community nurses' (CN) support of peritoneal dialysis (PD) patients through regular home visits (HV) improves patient compliance, ameliorating the quality of PD and reducing the rate of infections and hospitalisations. A multi-centre survey conducted in our country has shown that 89% of the patients turn to hospital PD units for continued treatment, and only 2% approach community clinics. We initiated a trial project with the aim of training CN's to support PD patients.
Methods: Ten CN's and six patients participated in the project. This included three study days, two practice days in a hospital PD unit and a combined CN/PD nurse HV, to promote confidence and facilitate the transfer of patients' home care from the PD nurse to the CN. At the end of the 1-year-long project, the CN's were asked to fill in a feedback questionnaire to assess its contribution to their proficiency in PD care.
Results: Of the ten CN's, who participated in the study days, six participated in the practice days and combined HV's, but none made an independent HV. The CN's applauded the training project, but reported that supervised practice was insufficient, resulting in lack of confidence in their PD skills.
Conclusions and recommendations: Lack of confidence was the main factor preventing independent HV's by CN's. It is, therefore, recommended that the clinical practice period, both in the hospital and in the patients' homes, be lengthened, and that PD nurses should accompany the CN's during the initial period of independent HV's.

EARLY DIAGNOSIS WITHOUT PERITONITIS SYMPTOMS

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Peritonitis is a significant complication that increases mortality and morbidity of PD (Peritoneal Dialysis) patient, resulting in limited therapy. Patients apply to the unit with symptoms such as abdomen ache and turbidity in liquid. However early diagnosis and therapy without symptoms may increase quality and duration of life of patients. We aimed to diagnose peritonitis in advance by analysing monthly peritoneal liquids of PD patients during the period of absence of symptoms. Therefore 49 patients, 18 female and 31 male, were taken onto study in PD Unit during the period January 2000 - December 2003. During monthly checks of patients, peritoneal liquid samples were taken and gram painting and leukocyte counting were conducted. Where the leukocyte count was >100, even though no clinical symptom is observed it is considered to be peritonitis. CAB (Culture Anti biography) was taken and therapy was started. Of the 49 patients in the study, 18 (36,7 %) had peritonitis. Duration of peritonitis is 48,5 per patient month. Of 18 peritonitis cases, 7 patients (% 38,9) were detected during monthly checks without symptoms being present. The remainder 11 patients (% 61,1) in contrast were already admitted into unit with symptoms. In conclusion peritonitis may be diagnosed by means monthly regular peritoneal liquid control of patients. Frequency of peritonitis and resulting therapy is seen less frequently h these patients. Therefore, during the periods during which patients have no symptoms, monthly control of their liquids is important for early diagnosis and therapy.

COMPLIANCE AND RE-TRAINING IN PERITONEAL DIALYSIS PATIENTS

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It is known from studies that the problems connected to non-compliance of PD patients are mostly due to the chronic condition of the disease and dietetic pharmacological dialysis prescriptions.
Aim of the study is to describe our experience in regard to a research study carried out in PD patients in order to evaluate the need for retraining.
Methods: all the patients had to be in the research project for at least 6 months. The research was done in 2 phases: 1) give out the questionnaire that had the objective to verify how much the patients remembered of the theoretical contents learnt during the beginning of the training, 2) home visit agreed with the patient for the "correction" of the wrong answers of the questionnaire and a practical check of the method with a "evaluation card" data filled by a nurse in regard to the: exchange protocol, preparation of the APD machine, exit site cure, material for stock. During Sept-Dec. 2002 we did 44 agreed home visit to the patients where we have discussed and retrained the patients/partner.
Results: phase 1): 79% of the answers were right, 21% wrong. The area in which the patients made more mistakes was the dietary one. Phase 2): 40% of the patients did not follow the exchange protocol, 22% had no proper environment (room) 20% had no proper personal hygiene.
Conclusion: this experience has given us the opportunity to point out the necessity of retraining the patients from the theoretical aspect as well as the practical aspect during the home visit.

APPETITE IS THE BEST MARKER OF NUTRITIONAL STATUS IN PATIENTS ON PERITONEAL DIALYSIS

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There are several tests to assess the nutritional status of the patients on dialysis. In this study, we compared "Mini Nutritional Assessment (MNA)" and " Subjective Global Assessment (SGA)" tests. A total of 21 patients on peritoneal dialysis were enrolled in to the study (11 M, 10 F, mean age: 56.9 ± 14.4 yrs). The "appetite score" had strong correlations with "regular meal habit score" ($r = 0.660$, $p < 0.001$), "MNA score" ($r = 0.725$, $p < 0.001$) and "SGA score" ($r = 0.619$, $p < 0.001$). There was a strong correlation between MNA and SGA scores ($r = 0.607$, $p = 0.004$). Interestingly, there was a negative correlation between body mass index (BMI) and with "regular meal habit score" ($r = -0.487$, $p = 0.027$).
We concluded that, appetite is the most reliable marker in assessing the nutritional status of patients on peritoneal dialysis and the tests, MNA and SGA, could be used interchangeably.

CURE OF INFECTED WOUNDS IN PERITONEAL DIALYSIS WITH A NEW METHOD: SUGAR AND VITAMIN C

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Introduction: Three factors must interact in order to see the right development for the cure of a wound: the environment, bacteria and biological defence mechanisms. In the bacteriological process, sucrose causes bacterial destruction due to a decrease in the water activity values, creating a hyperosmotic medium in the extracellular space. A bacterium is placed in a hyperosmotic medium with a low water activity because sucrose expels water outwards. Therefore, several concentrated substances remain in it.
Aims: To check that sugar associated with Vitamin C results a good alternative for the healing of infected wounds in peritoneal dialysis.
Method and Materials; two patients are observed: a man and a woman. The man has an exit site infection with Serratia marcescens. The woman has a site infection with Staphylococcus aureus. We cleaned adhesions out of the skin with saline solution. Afterwards we covered the wound with sugar and Vitamin C. We repeated the cure twice a day.
Results: For the man, 10 days after we started the treatment the wound it was better and in 12 days it was healed up well. For the woman after 30 days the wound was also closed up.
Conclusions: Sugar is an excellent choice for the treatment of wounds, infected or not. This treatment has some interesting advantages, since sugar is a very economical product and its application is very easy.

QUALITY OF LIFE OF PERITONEAL DIALYSIS PATIENTS

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Purpose: The recently introduced concept of quality of life places increasing emphasis on a broad spectrum of chronic diseases, including renal disease. In the terms of maintaining good health this can be divided in to general, physical, mental and social aspects. This study was conducted on the quality of life in the patients who used peritoneal dialysis
Method: The research method used was descriptive in order to show quality of life in the patients who used peritoneal dialysis. The research has been conducted on 45 patients who were registered in Akdeniz University Hospital, between January 10, 2003 and April 15, 2003. Researchers prepared a personal knowledge form that included patients accepted characteristics, and a quality of life scale both of which have been used as data collecting tools. Data have been collected as personal communications between the patients and the researcher herself.
Result: Quality of life has been affected by age, gender, education of disease, adaptation to diet programme, control time of disease, adaptation to disease, difficulty to adapt to the disease, length of time on peritoneal dialysis.
Conclusion: According to the results from the research, quality of life is affected in the patients who use peritoneal dialysis. Suggestions have been made in the view of the results obtained from the research.

AETIOLOGY OF LEAKAGE IN PERITONEAL DIALYSIS PATIENTS AND EVALUATION OF INTERVENTIONS

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Objective: Leakage is one of the non-infectious complications of peritoneal dialysis (PD). In this study, we evaluated the aetiology of leakage, therapeutic interventions and outcomes in our patients.
Materials and Methods: Of 133 patients who were followed-up between years 1994-2003 at our unit, 26 patients with leakage were enrolled in the study. Sex, age, duration of PD, date (month) when leakage first occurred, reason of leakage, catheterisation method, obesity, type of leakage, and response to therapy of the patients were evaluated retrospectively.
Results: 29 leakage complications were detected in 19.4% of 133 study patients; of them 34.6% were females and 65.4% were males. Two patients were obese and none of the female patients were multiparous. Mean age was 43.5±1.2 years and PD duration was 37±25.1 months. External, internal and both types of leakage were observed in 3, 20 and 3 patients respectively. No significant difference was observed between patients in catheterisation type, age, and primary disease. Primary reason (%50) of external leakage was early initiation of PD. Internal leakage developed in 23%, 11% and 11% of patients due to lifting heavy weights, cough attacks and correction of incorrect position of catheters respectively.
Conclusions: PD should not be initiated early, and the factors that may increase intra-abdominal pressure should be avoided to prevent leakages following catheter implantations. Exchange number should be increased by frequent night exchanges and no or low volume daytime exchanges; if treatment failure occurs PD should be interrupted and haemodialysis be performed for a period of more than 1 month.

ROLE OF EXTERNAL CUFF IN UNTREATED CATHETER EXIT SITE INFECTIONS

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Objective: Catheter exit site infection (ESI) is one of the complications of peritoneal dialysis. In this report we aimed to demonstrate that instead of changing the catheter, removal and trimming external cuff may be successful in cases diagnosed with ESI who were non-respondent to antimicrobial therapy administered for at least two weeks.
Materials and Methods: This method was used in 5 cases in our unit between years 1994-2003. First step: Under sterile local anaesthesia conditions upper tissue covering the cuff was lifted by incision progressing to external cuff. Second step: 1-3 weeks later, cuff was separated from the tissue beneath by incision. Third step: After wound healing cuff was trimmed. Catheter outlet healing was observed in all cases. After the procedure, catheter outlet was evaluated for presence of redness, swelling, tenderness and purulent fluid leakage.
Results: Mean age was 35.8±19.5 years and 3 of the patients were females and 2 were men. Mean duration of peritoneal dialysis was 54±30.9 months. Catheter insertion method was percutaneous in 1 patient and surgical in 4 patients. Cultures obtained revealed Staph.aureus in 3 patients, Staph.epidermidis in 1 patient, Serratia marcescens and Staph aureus in 1 patient. None of the patients had a peritonitis attack during the exit site infection period. No ESI developed after the procedure.
Conclusions: In patients on peritoneal dialysis, one of the inexpensive and effective procedures that might be performed in addition to catheter change is surgical removal of external cuff when treatment for ESI fails.

WHAT DO PATIENTS ON CHRONIC PERITONEAL DIALYSIS DO WITH THEIR WASTES?

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It is known that hepatitis B and C infect the drainage fluid during peritoneal dialysis.
Objetive: To investigate where and how patients undergoing peritoneal dialysis dispose of their drainage fluids and empty sacks. In the study, a questionnaire of 25 questions was applied to a total of 212 patients (108 women (%51) and 104 men (%49)). Patients were selected from 8 different hospitals at random.
Results: It has been found that 75.6 % of the patients (78.4% of women, 72.9% of men) evacuate their drainage fluids by themselves and that 92.3% of them perform disinfection after this process. 85.4 % of women and 85% of men use bleach for disinfection. 45.6% of women and 38.3% of men dispose of the empty sacks and the drainage sets in two separate bags. The ratio of the patients taking the waste back to the hospital is 2.9%. The number of the patients who carry out the disposal process appropriately (with medical waste bags) is only 37 (17.6%). The percentage of the patients whose waste is collected by the medical waste vehicles of the municipality is only 5.3. As a result, it's been established that 62.3% of the patients do not carry out the disposal process appropriately.

PERCEIVED SOCIAL SUPPORT IN HAEMODIALYSIS PATIENTS

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The purpose of this study was to describe the perceived social support of patients undergoing haemodialysis. The data were gathered by Questionnaires (Turkish version of Multidimensional Scale of Perceived Social Support: MSPSS) and analysed by using descriptive statistics. The sample consisted of 140 patients, included 75 men and 65 women. Participants ranged in age from 18 to 77 years with a mean age of 51 years. The mean duration of haemodialysis treatment was 4.7, SD+3.7. Our results showed that perceived total social support to be moderate (Scoring 12-84; 12 being the lowest social support, 84 being the highest social support, total score mean: 68.6,SD+13.5).
If we separate our sample according to gender, an important distinction was evident: women were perceived to receive less social support than men ($p<0.05$). Married patients had higher family and significant others' social support score than those who were not married ($p<0.05$). It was found that there was a significantly increased perceived social support score among the 55-60 year group, ($p<0.05$) and also those living in a village ($p<0.05$). Most subjects perceived to get emotional, practical and informational support from their family. Visiting friends and neighbours decreased from a little to a lot after the beginning of haemodialysis. To conclude, the tailoring of effective nursing interventions compatible with the perceived health and subjective experience of haemodialysis patients requires information from the patient's point of view. More detailed prospective studies on perceived social support are needed for better care of patients undergoing haemodialysis.

THE EXPERIENCES OF LONELINESS, DEPRESSION, AND SOCIAL SUPPORT OF TURKISH PATIENTS TREATED WITH CONTINUOUS AMBULATORY PERITONEAL DIALYSIS AND THEIR CAREGIVERS

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Introduction: By altering the lifestyle of the patient and family or caregiver, chronic illness and continuous ambulatory peritoneal dialysis (CAPD) can create loneliness and depression. Perceived social support may facilitate coping with illness.
Aim: To examine the differences and relationship of loneliness, depression, and social support of Turkish patients with continuous ambulatory peritoneal dialysis and their caregivers.
Method: The study was carried out in a Dialysis unit between 1st March and 31st May 2003. Data were collected through interviews by using the UCLA loneliness scale, the Beck's depression scale and the Perceived social support from family and friends scales and demographic data form.
Findings: A total of 130 subjects including 65 patients with CAPD and 65 caregivers took part in this study. The mean ages of the patients and caregivers were similar (44.69±17.22 and 43.90±8.52 years, respectively). Both scores of loneliness and depression were below cut-off scores in both groups. However, scores of the loneliness of patients were higher than that of the caregivers. Perceived social support from family and friends were above cut-off scores in both groups and it was different for patients and caregivers.
Conclusion: Results of the study suggest that nurses need to be cognizant of patients' and caregivers' psychological reactions to CAPD, which may be expressed in feelings of loneliness and depression, and employed social support resources to be useful in patients with peritoneal dialysis and caregivers to cope with her/his illness and to adapt to the needed lifestyle changes.

SELF -DIRECTED INDEPENDENCY PACK FOR HAEMODIALYSIS PATIENTS:- CAN PATIENTS DO IT!

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Problem: - Increasing numbers of patients coming onto dialysis programme. Staff recruitment in renal nursing is an on going problem.
Purpose: - Identifying this problem within our unit prompted the creation of a self-directed independency pack for the haemodialysis patients. This enables patients to participate in their treatment to their own agreed level.
Design: - The pack allows the patient to choose how involved they wish to be with their treatment. The pack is divided into several stages. The patient can choose if they want to do all stages, some of the stages or just part of each stage. Methodology is assessment by nurses using observation and questioning. Structured learning takes place by use of action plans enclosed in the patient's dialysis folder.
Findings: - We have not yet undertaken an audit but increased interest from patients requesting to participate in using the packs is testimony to their popularity. Many have long journeys to contend with, the incentive of getting their treatment on time is encouraging them to participate.
Relevance: - As part of clinical governance and the National Service Framework, this unit is working towards a better quality of life for our patients in respect to their dialysis. Implementing a self-directed pack for the patients will hopefully decrease the amount of time some patients have to spend waiting in dialysis units for machines and their treatment to be ready.
Conclusion: - Patients are becoming more pro-active in their treatment, they have a renewed interest with a long term view of home dialysis.

HOLIDAY AS THERAPY

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The aim of this study is to describe our experience about nurse involvement in organising and managing holidays for dialysis patients.
Methods: after evaluating literature data and others' dialysis experience, holidays were organised according to the following criteria:
1) tourist resorts and hotels provided with disabled access and facilities, availability of special menu, etc.
2) public haemodialysis unit within short distance from the hotel.
3) careful planning of travel.
4) assessment of clinical conditions before departure.
5) first-aid kit.
Twenty-five holidays were performed in France, for example Corsica and Liguria, Marche, Veneto and other places. The average number of patients and their relatives who had enjoyed at least one holiday was thirty. During the holidays the nurse's presence ensured the necessary assistance, for example: measurement of arterial blood pressure, medications, sanitary assistance during the haemodialysis session, escort on the beach, etc. Every day, according to the patients' needs we planned the activities.
Results. No patient was indisposed during these holiday travels. They were assessed as an improvement in well-being.
Conclusion. Nowadays an increasing number of dialysis patients are allowed to travel and nurse support can contribute to the patients well-being. Holidays and travel not only improve patients quality of life, but can also make them more confident.

MANAGING END OF LIFE CARE FOR PATIENTS WITH END STAGE RENAL DISEASE

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The number of patients developing end stage renal disease (ESRD) is increasing annually (Ansell and Feest 2002). Within this population there are a number of elderly patients approaching ESRD for which renal replacement therapy may not be an appropriate treatment option; either due to patient preference or issues related to co-morbidity. (Oreopoulos 1996). During the last eighteen months the total number of patients who have opted for conservative management has increased from 13 to 30.
Objective: The increase in numbers has necessitated the development of a multidisciplinary renal palliative care team who are devoted to providing high quality care to patients and on going support to their families and carers The Palliative Care Nurse Practitioner provides the vital link between the patient and both primary and tertiary care, with home visits allowing time for the patient and their family/carers to explore future management decisions in a familiar environment. The team have developed guidelines for the management of nausea and vomiting These guidelines have been developed to facilitate effective clinical decision making to ensure the patient is both physically and psychologically comfortable in the terminal phase of their disease.
Conclusion: Chronic renal disease is terminal if untreated. Patients have the right to make an informed choice regarding options available in the full knowledge that they will be offered the support they and their family require, as is offered to patients with other terminal diseases.

A NURSE KEEPING PACE WITH MODERN DIALYSIS TECHNOLOGY

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In this paper we are studying the level of complexity of the nurses' activities in the field of nephrology especially in haemodialysis, which has developed along with technology over the years. Nephrology as one of the most dynamic scientific disciplines has developed another quality: it has made it possible for nurses to control innovations in dialysis technology and procedures. The nurses are required to use all their skills and they have acquired the reputation for good practice and for augmenting the patient's Quality of Life. Because the nurse is in daily close contract with the patient she/he can be an inspiration to that patient while still acquiring knowledge for herself. In my opinion, a prerequisite for the status of these nurses is their frequent moving within the Nephrology Ward as they deliver the differing treatments, as this necessitates increased knowledge and skills. But we must not forget the fact that kindness, human warmth, understanding and a feeling of confidence cannot be supplied by any software. The real fact is that, some software enables the estimation and better quality of patient's life (analysing all relevant parameters). It must not be forgotten that, a nurse, due to the new dialysis procedures and larger "quantity" of time that can be devoted to the patient is able to recognize his/her needs, which is the most important condition for increased quality life.

MEDICAL AND NON-MEDICAL REASONS FOR ABANDONING APD TREATMENT

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The authors' experience in the treatment with peritoneal dialysis (PD), since 1983, is described. Over that period, of a total of 392 patients, 382 were on CAPD and 10 on APD. Medical and non-medical reasons for abandoning APD treatment in the surveyed patients are reviewed.
A group of patients treated with APD over the period 1997-2004, is presented. There were 10 patients, 7 male and 3 female, aged 12-42 years (32.6 ± 20.6). The total duration of the treatment in the group was 142 months.
Of the 10 APD patients, 2 are still on APD, whereas 8 have abandoned the method. Of these 8, 5 (62.5%) abandoned the treatment for medical and 3 (37.5%) for non-medical reasons. Medical reasons for switching to other types of dialysis were kidney transplant (1 patient), inadequate peritoneum (1), leakage (1), inguinal hernia (1) and fungal peritonitis (1). The non-medical reason for abandoning APD was the length of time needed for attachment to the machine every night, which disrupted the quality of their social life.
The results of this investigation show that patients prefer CAPD as the method for better psycho-social rehabilitation. Patients, who were on APD, were dissatisfied with their disturbed psycho-social lives because of the necessity for nightly attachment to the machine.
The employed patients on APD who abandoned the method for non-medical reasons suggested that APD should be used during weekdays and CAPD over the weekend. If accepted, this would present a new treatment modality in terminal renal patients.

PREDIALYSIS PATIENTS AT RISK OF EARLY NEED FOR RENAL REPLACEMENT THERAPY

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Timely referral to a pre-dialysis outpatient clinic is associated with improved outcome. However, the relation between patient characteristics and time to renal replacement therapy (RRT), i.e. dialysis or transplantation, has not been assessed. Therefore, we evaluated the clinical characteristics at the start of pre-dialysis care and their predictive value for an earlier start of RRT.
We performed a retrospective PREdialysis PAtient REcord study (PREPARE) of all the pre-dialysis patients in two university hospitals in the years 1999 till 2001.136 pre-dialysis patients were included. At referral mean age was 58 years and creatinine clearance was 18 ml/min. Median follow up was 444 days until start of RRT.
Multivariate analysis revealed that creatinine clearance at referral (RR 1.09, 0.26-0.60 CI per 10 ml/min), younger age (RR 0.77, 0.66-0.90 per 10 years), higher urea (RR 1.09, 1.05-1.12 per mmol/l) and haemoglobin level (RR 0.73, 0.59-0.90 per mmol/l) are independent risk factors for early need of RRT. More rapid progression towards RRT occurred in patients with diabetic nephropathy (RR 5.27, 2.03-13.67) and polycystic kidney disease (RR 3.65, 1.43-9.28) compared to patients with glomerulonephritis as the underlying disease.
In conclusion, pre-dialysis patients with a lower creatinine clearance, younger age, higher urea, lower Hb and those with polycystic kidney disease or diabetes as primary kidney disease, needed an earlier initiation of RRT. Awareness of these data can improve timely referral of patients at risk for an early need of RRT.

VALIDATION OF A NURSING PROTOCOL FOR THE CARE OF VASCULAR ACCESS

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Introduction: Haemodialysis practice requires safe access to the vascular system. The quality of the vascular access determines the efficiency of haemodialysis, morbidity, and quality of life in patients with renal insufficiency as well as the degree of satisfaction of professionals involved in patient care. In this study we want to emphasize, from a nursing point of view how important it is to perform a correct physical examination to evaluate the development of the vascular access.
Aims: 1.To check that the physical examination is a good diagnostic method for vascular access dysfunction. 2. To support the use of a validation of nursing of vascular access.
Material and methods: A retrospective study has been carried out over a period between January 1, 2000 and February 28, 2003 based on the search for information about vascular access in our patients. We used clinical histories, the nursing registration form for vascular access and the protocol for the assessment of the nursing vascular access, developed in our centre.
Results: As a diagnostic test for dysfunction vascular access the clinical assessment of the nursing staff had a sensitivity of 84.1% and a specificity of 68%.
Conclusions: 1. The assessment of nursing staff is an effective and efficient method for early detection of vascular access dysfunction. 2. When normal nursing assessment is performed, no further diagnostic test are required.

AN IMPROVEMENT GROUP WAS CREATED TO IDENTIFY THE NURSING DIAGNOSIS IN A NEPHROLOGY CARE UNIT

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Introducing the nursing process has produced an important change in the practice of our profession: In the Haemodialysis Unit of our Hospital an improvement group has organized, its aim is to identify the nursing diagnosis and establish the interrelations between the interventions and the results in patients of our Unit and establish a care guide for the patients attending the Haemodialysis Units.The method used has been the improvement group for expert panels. The work sequence was the following: *Seek updated bibliography. *Carry out ten group sessions. To facilitate the preparation of the care guide it was organized according to the II NANDA Taxonomy.
As a result a total of 33 diagnosis and the interrelations between the NANDA diagnosis, NOC results and NIC interventions of the population subject to study were identified, and the nephrology care guide was designed and created.
Conclusions: 1. The incorporation of group techniques makes a dynamic agreement possible in the interprofessional relations, inducing to participation and motivation of group members.
2. Working with a care guide facilitates communications and nurse care by using a standard common language for all nurse professionals, as well as being an instrument that helps accomplish a continuous improvement of the quality of nurse care.

ERYTHROPOIETIN AND ITS USE IN DIALYSIS PATIENTS

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Erythropoietin is a glycoprotein of a 34,000-Dalton molecular mass. It is primarily synthetised in peritubular renal fibroblasts as a response to anaemia and hypoxia. It is a part of a very complex negative feedback, which adapts the red blood count to the tissue oxygen requirements. Acute hypoxia induces rapid accumulation of specific RNA messenger erythropoietin in the kidney, which precedes the synthesis and excretion of the active hormone. Erythropoietin is bound to the cellular surface of BFU, CFU, proeerythroblast and basophil receptors in the bone marrow. The effect of erythropoietin binding to its receptor (at the cellular physiological level) is manifested as the prevention of programmed cellular death (apoptosis).
The principal indication for erythropoietin is anaemia in chronic renal insufficiency. The target haemoglobin value in haemodialysis patients on erythropoietin is 110-125 g/L. Patients on erythropoietin should have satisfactory iron status, so they are administered intravenous iron. In the authors' Department, erythropoietin is applied in 69 of 155 (44.5%) patients on long-term haemodialysis as well as in 85% of children and in 44% of adults on peritoneal dialysis. Erythropoietin is applied in the weekly dose of 50-150 IU/kg body weight, intravenously or subcutaneously, depending on whether it is erythropoietin ? or ß. From August 2002 to August 2003, 35 patients were followed up after switching from subcutaneous erythropoietin ? to the intravenous drug (related to PRCA). In the study, no decrease in the red blood count was observed, although equal erythropoietin doses were administered.

WHEN SHOULD WE USE THE COCKCROFT-GAULT FORMULA TO ASSESS THE GLOMERULAR FILTRATION RATE?

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Glomerular filtration rate (GFR) is calculated using several methods. Cockcroft-Gault formula (CGF) has been known as a useful tool for bedside-assessment of GFR. We investigated the usefulness of CGF in different stages of renal failure. A total of 113 patients were included in the study (80M, 33F, mean age. 44.3 ± 21.3 yrs). The creatinine clearance (CrCl) values were calculated as usual and two groups were formed according to the CrCl levels: Group I: Patients whose CrCl = 25 ml./min (n: 39, mean age: 60.1 ± 15.8 yrs) ; Group II : Patients whose CrCl >25 ml/min (n: 74, mean age : 35.9 ± 19.1 yrs). In Group I, there was a correlation between CrCl (13.4 ± 5.9 ml/min) and CGF (16.1 ± 7.4 ml/min) ($r = 0.688$, $p < 0.001$) . But, on t-test, there was a significant difference between two parameters ($p = 0.005$). Mean CGF value was found 20% higher than CrCl level in Group I. In Group II, there was a correlation between CrCl (86.4 ± 31.3 ml/min) and CGF (83.1 ± 30.1 ml/min) ($r=0.715$, $p<0.001$). On t-test, there was not a significant difference between two parameters ($p = 0.226$). Mean CGF value was found 3.8 % lower than CrCl level in Group II. We concluded that, CGF should not be used to assess GFR in patients whose CrCl = 25 ml /min.

TOTAL DOSE IRON SUPPLEMENTATION - DOES A STANDARDISED REGIME WORK ON NON-HAEMODIALYSIS PATIENTS?

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Patients with renal failure benefit from early attentive anaemia management. As patient population grows our ability to meet the increasing workload led to a decision to standardise IV iron supplementation. We now administer low molecular weight iron dextran complex (CosmoFer, Vitaline Pharmaceuticals) as a standardised, 1000mg, total dose infusion (TDI).
This regimen was adopted in January 2002 following a 3 month audit. Ferritin and haemoglobin levels measured prior to administration, and six weeks post infusion, were analysed for 87 administrations (some patients received more than one administration).
In patients receiving EPO the mean haemoglobin levels increased from 10.20g/dl to 12.18g/dl, an increase of 1.98g/dl ($p=0.02$). For these same patients mean ferritin levels increased from 62µg/l to 304ug/l, an increase of 242 ug/l ($p=0.02$). Patients not receiving EPO also demonstrated a significant improvement. Mean haemoglobin levels increased from 9.61g/dl to 10.60g/dl, an improvement of 0.99g/dl ($p=0.007$). Mean ferritin levels increased from 53ug/l to 256ug/l ($p=0.02$).Ferritin stores should be in the range 200-500ug/l. This target level was attained in both groups of patients.
Mean haemoglobin levels for patients receiving EPO exceeded 12g/dl and exceeded 10g/dl in those not receiving EPO.
We conclude that a standardised approach to IV iron supplementation, using CosmoFer and administered at 1000mg as TDI, successfully restores ferritin to target levels and contributes to achieving haemoglobin target levels in non-haemodialysis patients. This approach reduces clinic visits, a benefit to both the renal unit and patients.

TREATMENT WITH PLASMAPHERESIS: SINGLE-CENTRE EXPERIENCE

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Plasmapheresis (PF) is a procedure by which the blood cellular component is separated from the plasma, is re-suspended in the substitution fluid and then returned into the body, while the plasma is removed. At the University Hospital Centre Zagreb Dialysis Department, PF has been performed since 1982.Case histories of patients treated with PF at this Dialysis Department were retrospectively analysed for the incidence of PF complications.
From 1982 to 2002, a total of 3105 procedures, on 360 patients, had been performed. The vein-vein technique was applied for vascular access in 81% of patients, endovascular catheter in 16% and arterio-venous fistulae in 3% of patients. The most common indication for PF treatment was myasthenia gravis (48%) and Guillain-Barré's syndrome in 17% of patients. PF treatment was used in 2% of each of the following: rapidly progressive glomerulonephritis, hyperviscosity syndrome, preparation for bone marrow transplant and kidney graft rejection. Systemic lupus was the indication for PF in 6% and TTP/HUS in 3% of patients.Of the 3105 analysed PF procedures, blood clotted in 308; bleeding developed in 2, hypotension in 16, and chills in 19 procedures. A more severe allergic reaction was observed in 24 patients, among whom 4 developed anaphylactic reactions.We can conclude that the rate of adverse reactions to PF is comparatively low, and that PF is a safe and efficient treatment method in numerous pathological conditions. If the adverse reactions are recognized on time, the probability of development of more severe complications is reduced.

THE EVALUATION OF A BONE DENSITOMETRY SERVICE IN A POPULATION OF PATIENTS WITH CHRONIC KIDNEY DISEASE

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Introduction: Secondary hyperparathyroidism is a common condition among patients with renal failure. This results in the normalisation of low plasma calcium levels by removing calcium from the individuals bones. Without adequate treatment this will eventually reduce bone density.
It is believed that among some patients with renal failure there is an increased rate of atraumatic fractures compared to the general population. The introduction of a portable dual energy x-ray absorptiometry (DXA) bone mineral density scanner, has made it possible to offer local analysis of bone density.
Problem: The unit wished to establish what percentage of their scanned patients were osteoporotic or osteopenic, and identify what measures could be put in place to improve service delivery and patient outcomes.
Design: An audit of data obtained from the DTX software and data collection sheets, devised by the unit, were analysed. These contained information on scan results, length of time on dialysis, biochemistry profile, history of fractures, menopausal age, and medication.
Findings: Over a 4 year period 554 patients were scanned. 151 (27%) had osteoporosis and 198 (36%) were osteopenic.
Conclusions: Significant numbers of scanned patients were found to require preventative treatments in order to reduce their risk of developing a debilitating fracture. The challenge for the future is to devise an effective patient management plan which will ensure full and appropriate utilisation of the available equipment. This should help with the development of a dedicated service for renal bone disease management.

TREATMENT OF SEPSIS WITH HAEMOPERFUSION BY THE USE OF POLYMYXIN IMMOBILIZED FIBRE: A CLINIC CASE

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Sepsis, septic shock and multiple organ dysfunction (MODS) are heterogeneous clinical syndromes, which result from the interplay of mediators of cellular function and inflammation.
Despite the use of potent antibiotics and intensive supportive care, mortalityremains high among septic shock patients, especially those with endotoxemia.Direct haemoperfusion with an absorbent column using polymyxin B immobilized fiber (PMX-F) has been shown to improve the state of shock in patients with sepsis.
We are discussing the case of an in-patient in Intensive Care for MODS after an emergency laparotomy for intestinal perforation due to diverticulitis.The patient had been treated with CVVH for acute kidney failure for two days.The patient was treated with haemoperfusion with the use of BBRAUN DIAPACT CRRT, filter Toraymixin PMX - 20R with QB 120 ml/h monitor for two hours, two days running.
The hyperdynamic state of the cardiac index and the systolic arterial pressure, which is a characteristic of endotoxic shock, returned to normal levels after treatment. The gradual reduction of temperature continued until the fever disappearance after second treatment.
After 24 days the patient was moved to the surgical unit.These results should be added to those already existing in the literature, to demonstrate the effectiveness of the treatment of septic shock with haemoperfusion with PMX when the endotoxins are removed.

Technology Posters

HAEMODIALYSIS AND BICARBONATE

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Patient case

Background: In the article published in the journal of EDTNA/ERCA JOURNAL 2000 XXVI it was stated that hypoxaemia during dialysis is induced by metabolic alkalosis due to high bicarbonate level. Patient exhibited symptoms of hypoxaemia such as agitation, restlessness, yawning and general indisposition.
Our interest was aroused when we noticed that a patient who has been undergoing haemodialysis for several years experienced the same kind of symptoms during dialysis and between sessions.
Study: The bicarbonate level of dialysate was set at 35mEq/l. Without changing bicarbonate level the pre dialysis blood gas analysis (astrup) showed a high level of bicarbonate, ph indicated patient to be alkaline. The post dialysis values were at same level.
After consulting the nephrologist the bicarbonate level of dialysate was changed. When starting the study bicarbonate was profiled so that the initial limit was set at 30mEq/l, ascending towards the end of treatment to 35mEq/l. This profiling did not change astrup values but the bicarbonate level had to be reduced for whole treatment time.
Conclusion: The patient had experienced terrifying symptoms of hypoxaemia and thus dialysis treatments were dreadful. It seems that the patients quality of life was improved thanks to bicarbonate profiling and she expressed that she felt better between sessions. This practical experience encouraged us to check the astrup values for all (9) patients and together with the nephrologist changed the instrument bicarbonate level or profiled the bicarbonate.

REGIONAL CITRATE ANTICOAGULATION IN SEPTIC PATIENTS WITH ACUTE RENAL FAILURE TREATED BY COUPLED PLASMA FILTRATION ADSORBTION

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Conventional systemic anticoagulation with heparin is a contraindication to renal replacement therapy (RRT) during high risk bleeding conditions. The issue of anticoagulation has become even more relevant using new RRT approaches, such as continuous plasma filtration which has recently been proposed as a selective treatment of patients suffering from sepsis associated acute renal failure (ARF).In the present paper, we evaluated a protocol of regional citrate anticoagulation in coupled plasma filtration adsorption (CPFA) by studying citrate its safety and the efficacy by comparing the results obtained with citrate to those reached in a group of CPFA-patients treated with heparin.
Twelve critically ill patients (8 severely burned, 4 polytraumas) with severe sepsis/septic shock and ARF were treated with CPFA-CVVHD by using bicarbonate-containing replacement solutions (Heparin-CPFA group, n. 76 sessions) or in the presence of bleeding risk by CPFA-CVVHF with citrate-containing replacement solutions (Citrate-CPFA group, n. 28 sessions).
Plasma flow and number of cartridges/session used showed no differences in Citrate-CPFA and Heparin-CPFA groups, while the number of lost cartridges was significantly lower in the Citrate-CPFA Group. Systemic blood ionized calcium and Ca++ infusion remained constant during Citrate-CPFA. Number of nursing staff interventions were not significantly different between the two groups (1.36±0.35 e 2.05±0.42 intervention/session in the group Citrate-CPFA and Heparin-CPFA, respectively).
These results demonstrate that in septic patients at bleeding risk and treated by CPFA regional citrate anticoagulation is an efficient and safe alternative to heparin.

ACCIDENTAL ACUTE METABOLIC ACIDOSIS DURING HAEMODIALYSIS INDUCED BY AN ERROR IN THE SELECTION OF THE BICARBONATE CONCENTRATE

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Bicarbonate haemodialysis has become a standard treatment. The selection of the bicarbonate concentrate is the most important step in dialysis. In the following report we present an incident of severe acute metabolic acidosis during haemodialysis treatment induced by an accidental error in the selection of the bicarbonate concentrate.
The bicarbonate concentrate erroneously used for preparation of the dialysate was CB5, instead of CB3. The system we are using has been arranged for a 3mS/cm conductivity jump, which is achieved by the use of a CB3 concentrate. The concentrate that was accidentally used (CB5) is suitable for a 5mS/cm jump. After two hours of haemodialysis the patient became symptomatic with nausea and vomiting due to severe acidosis (pH 7.19, HCO_3^- 14mmol/l). A dialysate pH of 6.8 was accessed, however, conductivity cell alarm was not activated at any time during treatment. A complete recovery was achieved by termination of dialysis, intravenous bicarbonate and subsequent haemodialysis with the correct bicarbonate concentrate.
Errors in the selection of concentrate are a recognized source of haemodialysis complications, however, little attention has been paid to this problem in recent textbooks. Conductivity cell devises are efficient tools to avoid disturbance of sodium and osmology but not of the acid-base balance of the dialysate. In order to avoid cases of accidental acidosis on line pH-meters with alarm systems should be part of the equipment in all dialysis machines.

Transplant Posters

LIVING DONOR RENAL TRANSPLANTATION: PUSHING THE BOUNDARIES?

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It is widely acknowledged that living donor transplantation offers patients with end stage renal failure the best chance of long-term rehabilitation. A planned transplant from a living donor is the treatment of choice for many patients but, for more complex recipients or for those who are considered to be at greater risk from transplantation, it may offer the only opportunity for them to be successfully transplanted. Three scenarios drawn from the practice at our centre illustrate how transplantation has been optimised in these clinically challenging cases through multi-professional teamwork and careful planning.
Case study 1: A 39-year-old lady with renal failure secondary to renal vein thrombosis and a history of antiphospholipid syndrome, SLE, psoriatic arthropathy, bilateral deep vein thrombosis and sub-dural haematoma whose husband was a 110 mismatch.Case study 2: A 33-year-old gentleman with vasculitis and suffering extreme anxiety and fearfulness regarding the possibility of renal transplantation combined with a morbid fear of needing a renal biopsy. His donor was a close friend.Case study 3: A 69-year-old gentleman with bilateral small kidneys and a history of coronary artery by-pass grafting and peripheral vascular disease whose daughter was keen to donate.
The challenge for the future is to ensure that living donor programmes continue to evolve in response to the needs of both donors and recipients in accordance with increasing expertise and knowledge within the field.

PATIENT PREPARATION FOR KIDNEY TRANSPLANT

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In Croatia, there are 38 dialysis centres with 2562 patients. In 2002, 982 (38.2%) patients were on the National Transplant Waiting List, 180 of them newly registered in 2002. In that year, 81 kidney transplants (77 cadaveric and 4 from a living related donor) were performed. Croatia is not a Euro-transplant member.
A patient enters the Cadaveric Kidney Transplant Waiting List after a very detailed and comprehensive pre-transplant workup and submission of his/her report form. When a potential donor is reported and organ explanation activities start, another detailed pre-transplant workup of possible organ recipients is done immediately before the transplant. Two potential recipients are summoned per organ, based on the Reference Tissue Typing Centre tissue typing and ABO compatibility results. In the transplant centre basic laboratory analyses are done: haematology, coagulation and biochemistry, virology (CMV status), ECG and heart and lungs radiography. While laboratory test results are waited for, a preoperative no-heparin haemodialysis or a peritoneal dialysis exchange are done. During this workup and dialysis, the nurse repeats necessary information on the new situation, immunosuppression and on possible complications. If a patient is well informed pre-transplant, he will be mentally stable during his first post-transplant days. After the results of the pre-transplant analyses have been obtained, the transplant team (a nephrologist, an immunologist, an anaesthesiologist, a urologist and a nephrologist-paediatrician) decide about the recipient.
The nurse's maximum effort and the shortest possible duration of cold ischaemic organs will result in optimal graft functioning.

TREATING RENAL TRANSPLANT PATIENTS WITH IRON AND EPO/DARBEPOETIN: IT SLOWS DOWN THE NEED FOR RENAL REPLACEMENT THERAPY

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The aim of this retrospective study was to show that treating transplant patients with decreasing renal function with iron and epo/darbepoetin helps prolong the time till renal replacement therapy is required.
The anaemia service in this hospital has seen a considerable rise in the number of transplant patients referred to it for treatment The patients referred require both iron and epo/darbepoetin though in fifty percent of cases intraveneous iron was all that was needed for their haemoglobin level to become acceptable by our medical staff (This level is usually a haemoglobin of between 11.5-12.5g/dL. A few patients require higher levels due to their cardiovascular disease). Patients post-transplant are being given epo/darbepoetin for a few weeks until the new graft is working efficiently or until the patients immunosuppressants are reduced. It is thought that high doses of these can restrict erythropoetin production.Patients with increasing creatinine blood levels and reduction in their iron and haemoglobin levels are referred to the anaemia team. We look after these patients in the same way we would look after our Pre-Dialysis population by first correcting their iron stores and if required commencing them on epo-darbepoetin. At the present time we have 532 transplant patients of whom approximately 100 are receiving iron and epo/darbepoetin. The anaemia team has found (chart of results to be included on poster) that the transplant patients are enjoying a good quality of life and because they feel well appear to be remaining off renal replacement therapy.

'TEXT TALK' - USING MODERN TECHNOLOGY TO IMPROVE COMMUNICATION WITH KIDNEY TRANSPLANT RECIPIENTS

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A computer generated mobile phone text messaging service has been introduced into our nurse-led clinic, for the follow up of adult kidney transplant recipients.The ability to communicate to patients the changes in management is vitally important to the success of the follow up service, along with consistency of information and advice given to patients by their Transplant Nurse Practitioner. Non-compliance due to misunderstanding or changes to drug regimes are common, since non-compliance compromises the overall success of long-term graft survival, our aim is to improve communications with our patients using this concept.
A text message is short, concise and simple. It provides reinforcement of decisions made during or after their clinic visits, reduces verbal misunderstanding and provides written records of changes. Most patients have mobile phones, so the opportunity to utilise this innovative idea was an efficient development.We have had very positive feedback from patients who have used the text service. They have expressed that they feel reassured, especially on returning home post transplant. Patients also find it less intrusive to text us questions, encouraging patient involvement and strengthening patient/nurse relationships.Our preliminary findings show the most common usage is for; blood results, drug dose adjustments, appointments, reminders and advice.Future developments could lead to a quality of life survey. Audit of the service will provide us with information into the value of the text service, so that we can continue to monitor and improve the overall outcome of our kidney transplant recipients.

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