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Conference Theme: **Quality versus Cost**
Sustainable Renal Care

How the haemodialysis patients see the arteriovenous fistulae cannulation technique

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Valencia, 17-09-2016,

Presentation outline

1 Introduction

2 Objectives

3 Methods

4 Results

5 Conclusions

Introduction

Vascular access (VA) has been justly described as both the lifeline and the Achilles' heel of haemodialysis therapy. An appropriate technique is vital to preservation of the arteriovenous fistulae (AVF) and nursing teams have to involve patients and their families in the process.

Dinwiddie, L. et al (2014)

A cautious, individualized approach to the cannulation is warranted with the inclusion of a structured program of training and monitoring of the VA, reporting outcomes related to cannulation, to ensure timely identification of complications.

Gallieni et al (2014)

Introduction

Patients desired a superficial access in the forearm which was easy to cannulate, had minimal effect on their appearance, provided quick haemostasis after dialysis and enabled arm comfort during dialysis (...) For patients the most common problem was pain during needle insertion.

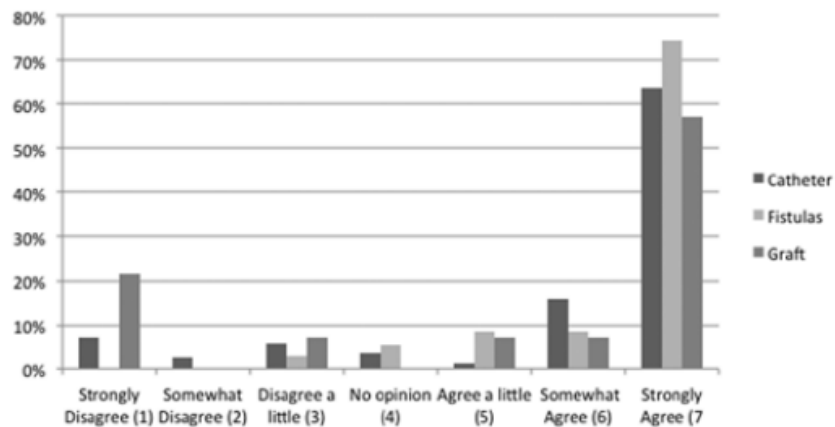
Bay W. (1998)

About patients perspectives on vascular access initiation and maintenance in haemodialysis (...) we identified 6 themes: heightened vulnerability, disfigurement, mechanization of the body, impinging on way of life, self-preservation and ownership, and confronting decisions and consequences.

Casey, et al (2014)

Measuring patient satisfaction with vascular access: vascular access questionnaire development and reliability testing

Sarah Daisy Kosa^{1,2}, Cynthia Bhola¹, Charmaine E. Lok¹⁻³



For question 3, circle a number on the scale (1-7) that indicates your level of agreement with this statement: *I am satisfied with my vascular access, where 1 is Strongly Disagree and 7 is Strongly Agree.*

TABLE I - Mean and median Likert scores for questions 4-15 on the vascular access questionnaire by access type

Domain	Item (question number)	All accesses		Catheter		Fistula		Graft	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
Physical	Pain (4)	1.80	1.00	1.49	1.00	2.03	1.00	3.00	1.00
	Bleeding (5)	1.55	1.00	1.35	1.00	1.74	1.00	2.21	1.00
	Swelling (6)	1.49	1.00	1.33	1.00	1.66	1.00	2.07	1.00
	Bruising (7)	1.43	1.00	1.24	1.00	1.66	1.00	2.00	1.00
Social functioning	Daily activities (8)	2.18	1.00	2.11	1.00	2.43	1.00	2.00	1.00
	Appearance (9)	2.05	1.00	2.07	1.00	1.63	1.00	2.93	1.50
	Sleep (10)	1.98	1.00	2.13	1.00	1.57	1.00	2.14	1.00
Dialysis complications	Bathing and showering (11)	2.61	1.00	3.27	1.00	1.60	1.00	1.29	1.00
	Problem on dialysis (12)	1.95	1.00	1.88	1.00	2.00	1.00	2.29	1.00
	Access care (13)	1.54	1.00	1.66	1.00	1.40	1.00	1.14	1.00
	Hospitalization (14)	1.55	1.00	1.72	1.00	1.29	1.00	1.21	1.00
	Worry about access longevity (15)	3.12	2.00	3.13	2.00	3.11	1.00	3.07	1.50

See Fig. 2 for excerpts from the questionnaire. In these domains, if a patient indicated 1-3, they agreed there was low or no problems for that item, if they indicated 4 they had no opinion, if they indicated 5-7 they agreed there was serious problems for that item.

TABLE II - Mean and median sum scores within domains

Hemodialysis patients' satisfaction and perspectives on complications associated with vascular access related interventions: are we listening?

Sarah D. Kosa^{1,2}, Cynthia Bhola¹, Charmaine E. Lok^{1,2}

TABLE 1 - Degree of bother associated with vascular access-related interventions (mean Likert values by domain)

Intervention	Mean Likert value by domain			Experience of intervention	
	Physical complications	Disruption to routine	Infections	n	% of total N**
Fistula					
Angiogram/venogram	1.47	1.19	1.09	50	35.7
Angioplasty	1.82	1.28	1.13	39	27.9
Thrombolysis	1.33	1.21	1.31	19	13.6
Stenting	1.87	1.41	1.26	15	10.7
Surgical revision	2.27	1.59	1.34	25	17.9
Stage 2 transposition	1.83	1.36	1.31	8	5.7
Cannulation difficulties	2.47	1.31	1.20	36	26.7
Overall degree of bother associated with physical complications for all interventions	1.87	1.33	1.23		
Graft					
Angiogram/venogram	1.42	1.19	1.06	11	7.9
Angioplasty	1.97	1.32	1.12	13	9.3
Thrombolysis	1.35	1.26	1.11	7	5.0
Stenting	2.01	1.57	1.31	6	4.3
Surgical revision	2.54	1.63	1.60	5	3.6
Cannulation difficulties	2.23	1.23	1.13	10	7.3
Overall degree of bother associated with physical complications for all interventions	1.92	1.37	1.22		
Catheter					
TPA or other lock*	N/A	1.24	N/A	47	33.6
Catheter removal and insertion at new site	1.79	1.43	1.61	40	28.6
Catheter exchange over a guidewire	1.67	1.33	1.48	32	22.9
Catheter inadvertently fell out	2.17	1.74	2.24	18	12.9
Other intervention on catheter	1.18	1.45	1.72	42	30.0
Overall degree of bother associated with physical complications for all interventions	1.56	1.44	1.76		

* Patients were only asked questions from the 'disruption to routine' domain for the intervention 'TPA or other lock' as no physical or infectious complications seemed likely.

** The percentage represents the number of patients who had that intervention for that type of access out of the total number of patients included in the study sample.

TPA = tissue plasminogen activator.

Objectives

- To measure the satisfaction with the cannulation technique;
- To understand how patients see cannulation technique of their AVF;
- To understand if the cannulation technique reduces anxiety and helps in treatment adherence.
- To assess pain and its evolution with the technique of cannulation;
- To understand which advantages and disadvantages of each cannulation technique;
- To analyse how patients evaluate their AVF regarding the aesthetic appearance;
- To evaluate the opinion of the patients regarding nursing care in cannulation technique.

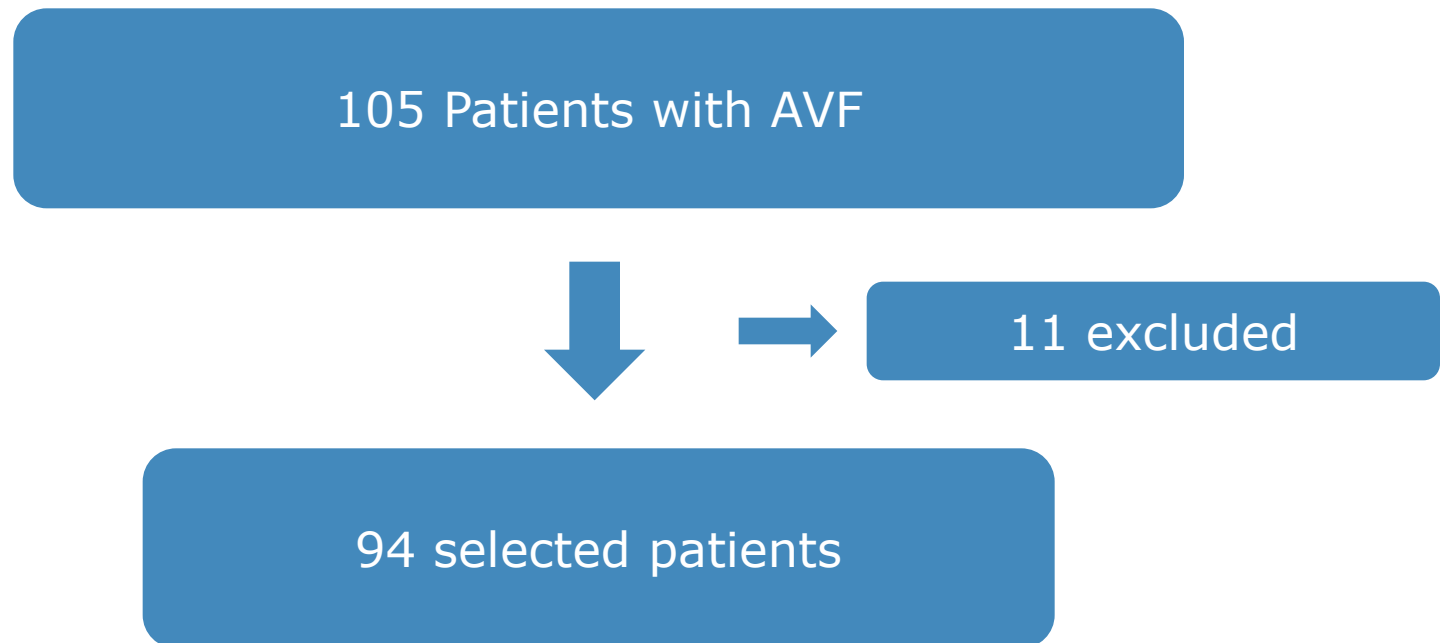
Methods

We developed a longitudinal quantitative, exploratory, descriptive study, through the application of a cannulation technique form which included various items about the vascular access like:

- how the patient observes the technique and how they feel about it;
- if this process influences treatment adherence in a positively way;
- if they were satisfied;
- if cannulation technique decreases the perceived pain;
- Advantages and disadvantages of the cannulation technique;

Methods

We applied the form in the our unit (NephroCare Viseu) in December of 2015.



Results

	n	%
Male	65	69,1
Diabetic	35	37,2
Age (mean)	63,5	

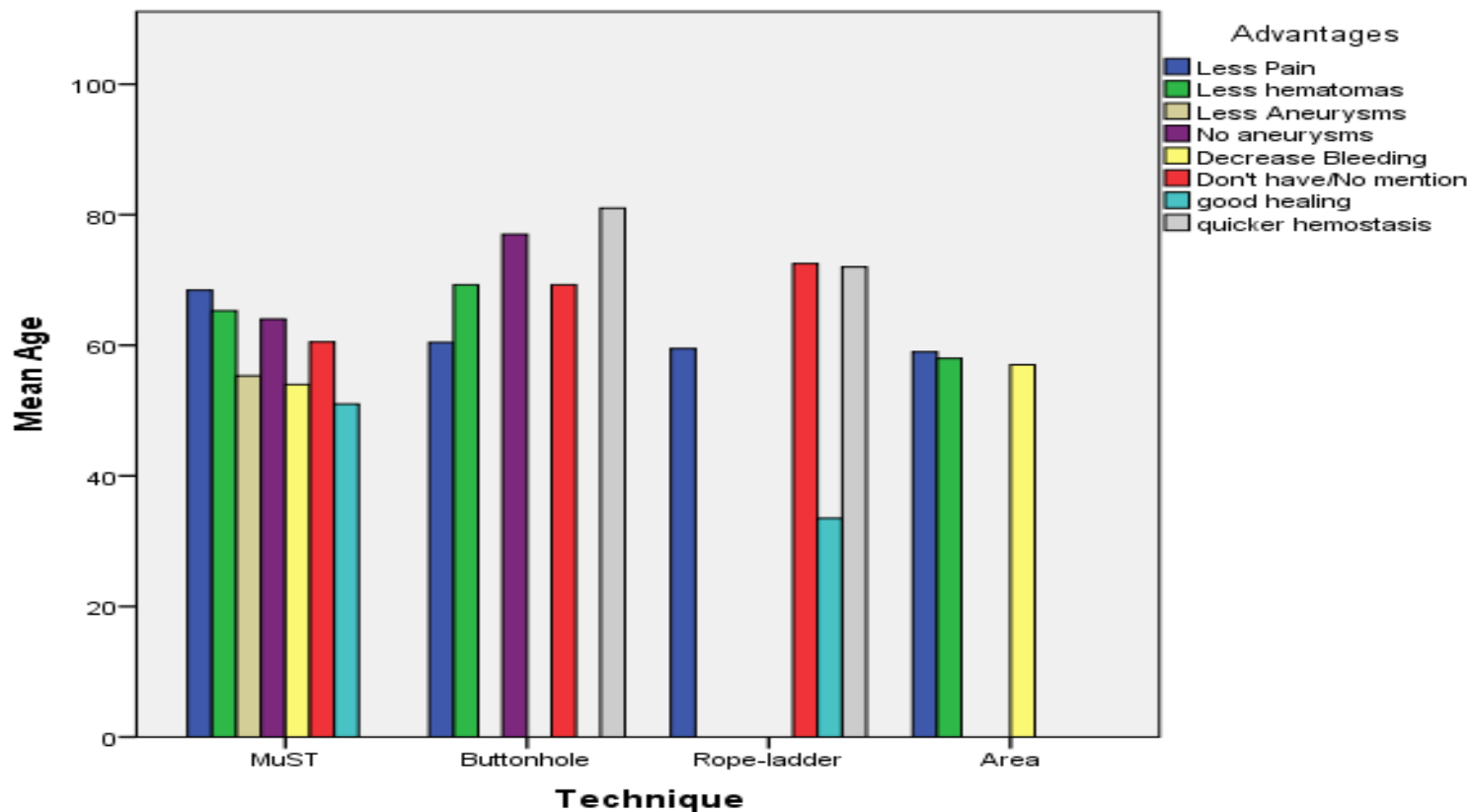
Cannulation Technique	n	%
MuST	50	53,2
Buttonhole	33	35,1
Rope-ladder	8	8,5
Area	3	3,2

	n	%
Informed advantages	85	90,4

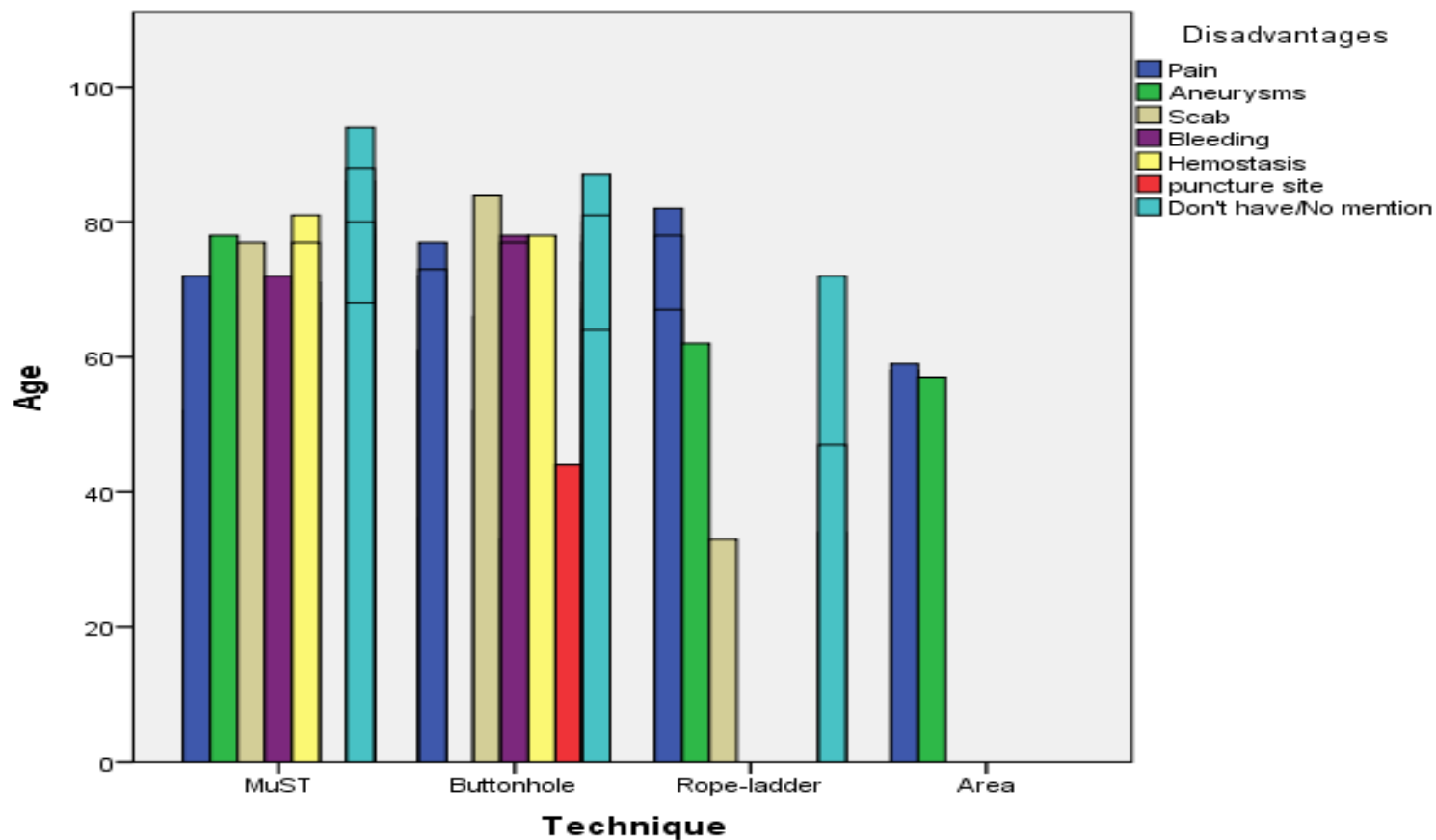
Results

- Of the 45.7% of patients who previously was an another cannulation technique, only 2% preferred the previous cannulation technique.
- 100% of the patients stated that the nursing team had extremely care in the cannulation procedure;
- The majority of the patients (88%) confirmed that the cannulation technique reduces anxiety and help in the treatment adherence.

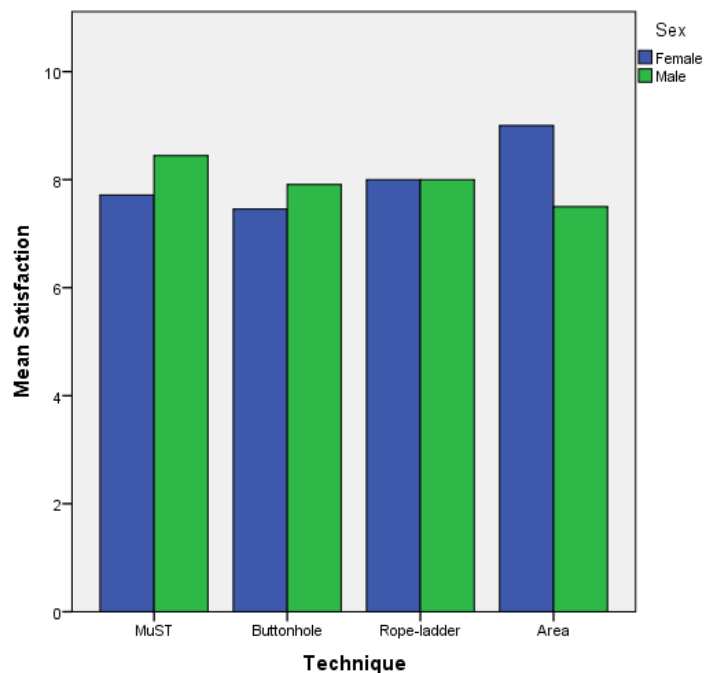
Advantages with the cannulation technique



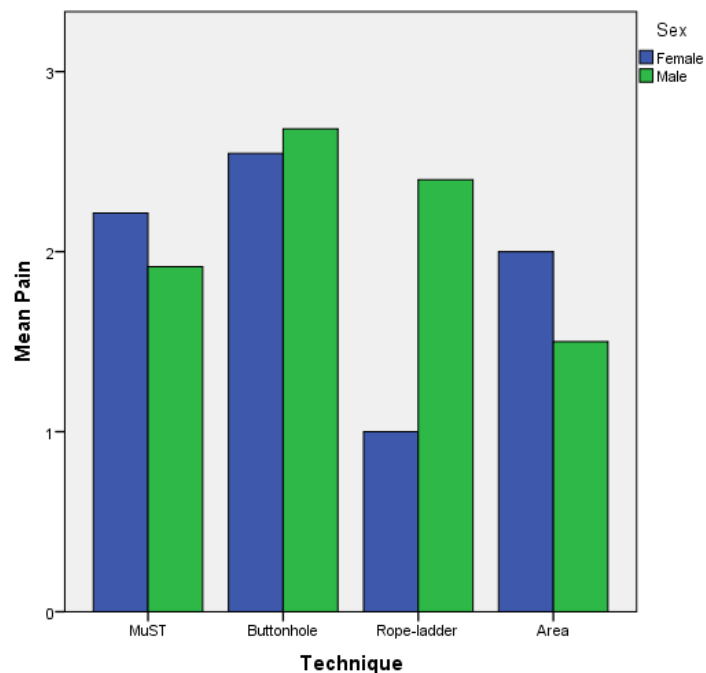
Disadvantages with the cannulation technique



Satisfaction with the cannulation technique



Pain in cannulation technique



Results

	MuST (n=49)		Buttonhole (n=32)		p
	mean	Sd	mean	Sd	
Pain	2,0	1,9	2,4	1,8	0,31
Satisfaction	8,2	1,3	7,9	1,9	0,29

Conclusions

- With this investigation we manage to understand the satisfaction of our patients with the cannulation technique, and we can say that:
 - The majority were satisfied with the current cannulation technique;
 - The mean pain is low but patients on buttonhole seems to experience greater pain;
 - Pain and haematomas decreased in all techniques;
 - Patients were involved in the cannulation choosing process;
 - The current cannulation technique decreased anxiety and help in the treatment adherence.

Conclusions

Although there is no perfect cannulation technique, these results do however show that our patients are satisfied with the cannulation technique in use and say that the vascular access care allowed for better treatment adherence.

Timely education and counselling about vascular access and building patients' trust in health care providers may improve the quality of dialysis and lead to better outcomes for patients with chronic kidney disease requiring haemodialysis.

Casey, et al (2014)

**Thank You Very Much
for Your Attention!**

Conclusions

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Acknowledgments

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