

Most frequent events leading to surgical intervention of vascular accesses in a haemodialysis unit

Filipa Leandro¹, Elisa Amaral¹, Carina Gonçalves¹, Fernanda Gomes¹, Bruno Pinto², Ricardo Peralta², João Fazendeiro Matos²

¹Fresenius Medical Care, NephroCare Vila Franca de Xira, Vila Franca de Xira, Portugal

²Fresenius Medical Care, NephroCare Portugal, Porto, Portugal

Introduction

Patients in haemodialysis are increasingly older which is associated with more comorbidities and the consequent degradation of their vascular condition.

The nurse is the healthcare professional which spends more time with the patients and also he is the responsible for the cannulation of the vascular access (VA) making her/him the most qualified professional to care for them and coordinate a surveillance team in the dialysis centres.

Objectives

To identify the main events that resulted in surgical interventions of internal VA.

Methods

Observational, retrospective and descriptive study.

We considered all actions resulted from any internal VA's dysfunctions that required surgical interventions in the period from 01/01/2011 to 30/08/2017.

Results

441 interventions were analysed: 262 in arteriovenous fistulas (AVF) and 179 in arteriovenous grafts (AVG).

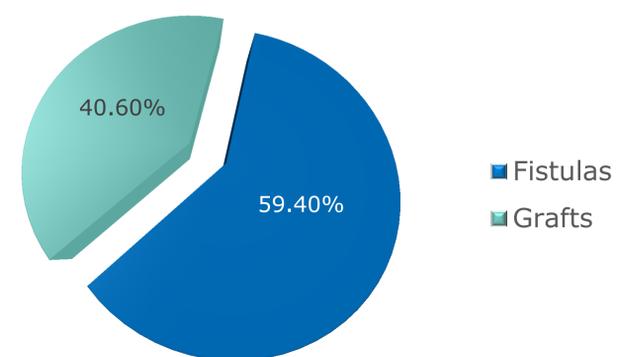
On average, the first intervention occurred at 40.21 months for AVF's and 29.23 months for AVG's life span.

Most expressive interventions in AVFs were related to:

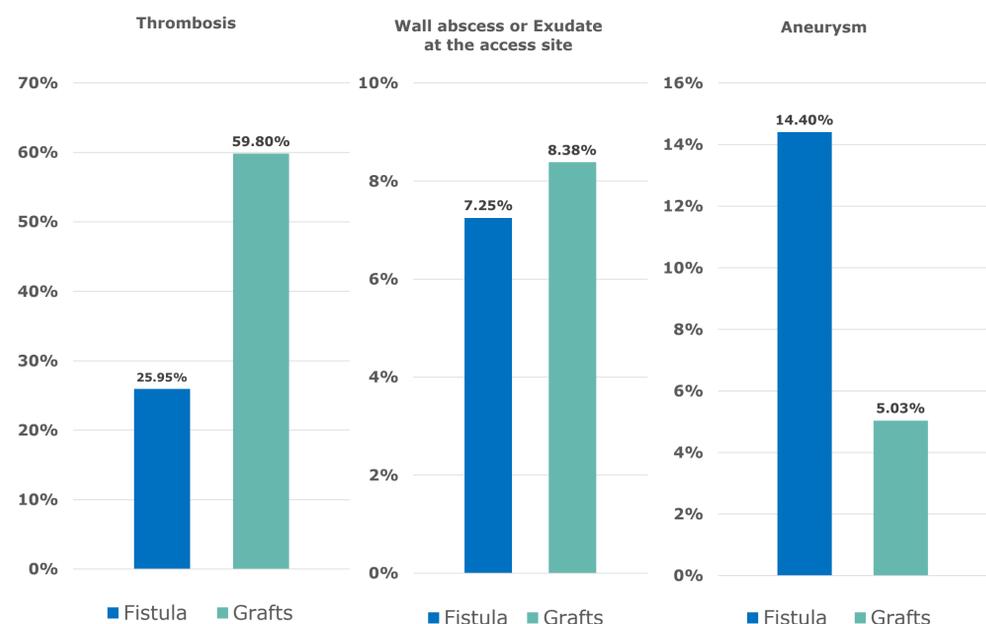
- thrombosis: 25.95%;
- wall abscess or exudate at the access site: 7.25% (in 2012/13 = 8 *versus* 5 events for remaining follow-up);
- aneurysm: 14.50%.

Most expressive interventions in AVGs related to:

- thrombosis: 59.8%;
- wall abscess or exudate at cannulation site: 8.38% (in 2012/13 = 4 *versus* 3 events for remaining follow-up).
- aneurysm: 5.03%.



Graph 1. Surgical interventions for AVFs and AVGs



Graphs 2, 3 and 4. Most expressive interventions for AVFs and AVGs

Conclusion

The most common surgical intervention was thrombosis for both AVF and AVGs.

Interventions related to infection events (abscess of the wall or exudate at cannulation site) were more frequent in grafts. However, we have verified that this event decreased over the years, which may be related to standardisation of nursing care and disposables, continuous nursing training and patient education (e.g. VA washing before cannulation) however remaining a source of concern and still requiring the supervision of the nursing team. The percentage of actively growing aneurysm events were lower in grafts than in fistulas, which may be related to the selection of the cannulation sites; in fistulas, this fact may also be related to the comorbidities and "morphological" factors of the patients.

References

1. Tomas, Nicola (2005) – Hemodiálise. In: Tomas, Nicola – Enfermagem em Nefrologia. 2ª edição. Loures: Lusociência, 2005. ISBN: 972-8383-85-1.
2. Daugirdas, John T., Peter Gerard Blake, and Todd S. Ing, ed4. Handbook of dialysis. Vol. 236. Lippincott Williams & Wilkins, 2007. ISBN 978-0-7817-5253-4
3. Parisotto, M. T., et al – A Nursing Best Practice Guide for the Arteriovenous Grafts . 2nd edition. Lucerne: European Dialysis and Transplant Nurse Association/European Renal Care Association (EDTNA/ERCA), 2017. ISBN:978-84-617-4687-3
4. Parisotto, M. T., et al – A Nursing Best Practice Guide for the Arteriovenous Fistula. 2nd edition. Lucerne: European Dialysis and Transplant Nurse Association/European Renal Care Association (EDTNA/ERCA), 2015. ISBN:978-84-617-0567-2