Vascular access survey in a hemodialysis center

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INTRODUCTION: The multidisciplinary team responsible for the care of HD patient should be alert in identifying any signs and symptoms suggestive of dysfunction of the vascular access, as well as promoting the development of skills, creating evaluation programs and implementing procedures aimed to assure the longevity of those.

INVESTIGATION QUESTIONS:

- What is the survival of a vascular access at the Diaverum hemodialysis center - Aveiro Unit?
- What are the reasons for referral and does this influence the access survival?
- What is the correlation between access survival and our population characteristics?

METHODS: retrospective registry-based single center study and collected data between the 1st of January 2011 and 31st of December 2016 to all active patients at this date in the Diaverum hemodialysis center - Aveiro Unit. A total of 436 vascular accesses were included in the analysis (63% AVF, 33% CVC, 4% AVG). Statistical analysis was performed using the statistical package SPSS 20.0, the chi-squared test or Fisher's exact test and survival curves were plotted according to Kaplan-Meier.

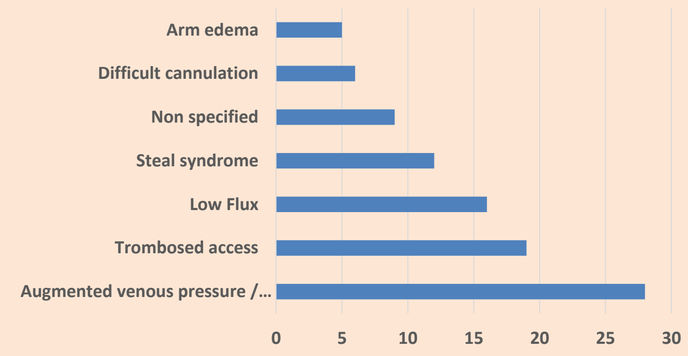
RESULTS:

Demographic data	
Patients	207
Mean age ± SD (years)	68,11 ± 13,31
Male (%)	60,38 %
Black race (%)	<1%
BMI (Kg/m²) (mean)	25,98
Hypertension (%)	74,88%
Diabetic (%)	33.81%
Smokers (%)	10,14%

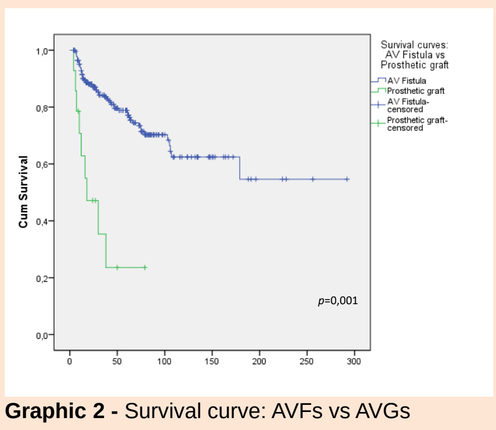
Table 1 - Demgraphic Data

Mean Access survival (Months)	
AV Fistula	64,73 ± 97,86
Prosthetic graft	23,57 ± 20,78

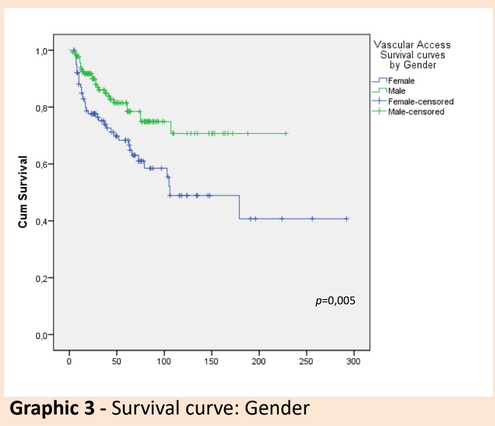
Table 2 - Access Survival



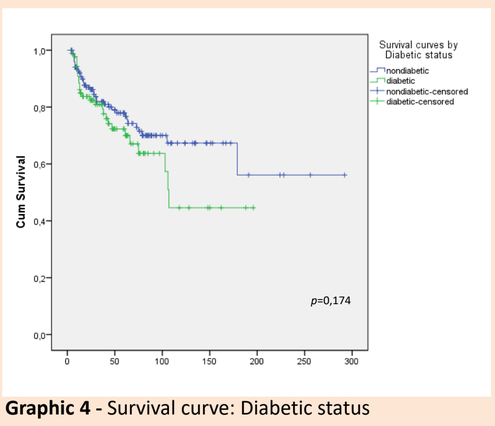
Graphic 1 - Reasons for referral to vascular access consultation



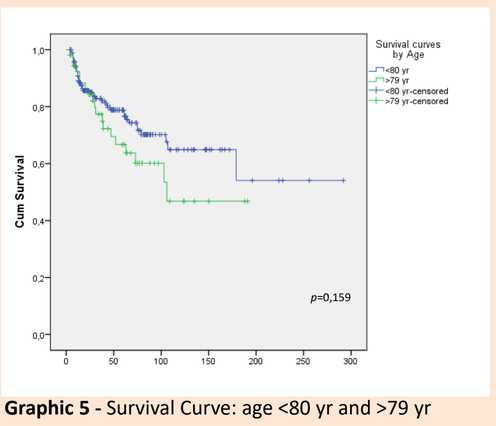
Graphic 2 - Survival curve: AVFs vs AVGs



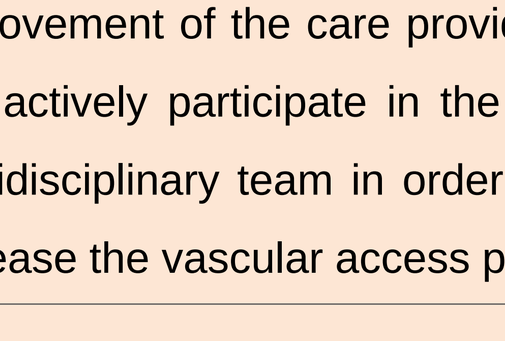
Graphic 3 - Survival curve: Gender



Graphic 4 - Survival curve: Diabetic status



Graphic 5 - Survival Curve: age <80 yr and >79 yr



Graphic 6 - Survival curve: brachial fistula vs radial fistula

	AV Fistula Primary failure		p-value
	Yes n=39	No n=141	
Age (years)	67,51 ± 12,29	67,24 ± 12, 91	0,971
Sex (M:F)	24:15	84:56	0,852
Diabetic (n)	9	52	0,188
HTA (n)	31	109	0,795
Type of AV fistula Proximal:Distal Brachial cephalic:Brachial basilic	 23:16 10:11	 86:55 51:29	 0,577 0,179

Table 3 – Factors in AVF primary faillure

CONCLUSION: This study has several limitations. The results are restricted by the retrospective nature of the design, its location at a single HD center and the relatively small sample size. This may explain why some of our data doesn't agree to the findings of other studies, such as the influence of age in the patency of AV fistulas and the effect of Sex, Age, Diabetes and type of AV fistulas in the primary failure rate.

Our contribution to Health Sciences and Nursing, although indirectly, is that we find the need to work on the continuous improvement of the care provided and that we need to reinforce the importance of autonomous Nursing work. As nurses, we can actively participate in the surveillance and clinical monitoring of the vascular access, acting autonomously and with a multidisciplinary team in order to detect early changes, minimize complications, intervene in a timely manner and ultimately increase the vascular access patency and contribute to the well-being of the HD patient.