

Introduction

- The elderly constitute a substantial and growing fraction of the end-stage renal disease population world wide.
- Elderly patients on hemodialysis are a heterogeneous group with a high prevalence of comorbidities that might reduce life expectancy.
- Although women have a survival advantage in the general population, women on hemodialysis do not survive longer than men.
- The underlying pathophysiology to this is poorly understood.

Objectives

- We aimed to examine differences in the prescription of hemodialysis in relation to age and gender.
- We studied a multicenter European cohort of patients on maintenance hemodialysis in 12 centers in Poland and Portugal.
- We focused on demographics and treatment prescription, the use of vascular access, and the achievement of KDIGO targets (Kt/V, anemia, and CKD-MBD) in women and men ≥80 years of age, respectively.

Methods

- We included 1,247 patients on maintenance hemodialysis from 5 DaVita centers in Portugal (n=730) and 8 DaVita centers in Poland (n=517).
- We collected demographic information, treatment prescription, and laboratory data (Kt/V, anemia, and CKD-MBD) in 2016 from all patients
- We studied hemodialysis prescription and analyzed laboratory results in relation to age (<80 yrs n=959, ≥80 yrs n=288) and gender (females n= 529, males n=718) in patients from all centers.
 - 22% of males and 25% of females were ≥80 yrs.
- Furthermore, we focused on the use of vascular access in elderly (≥80 years) in relation to gender.

Results

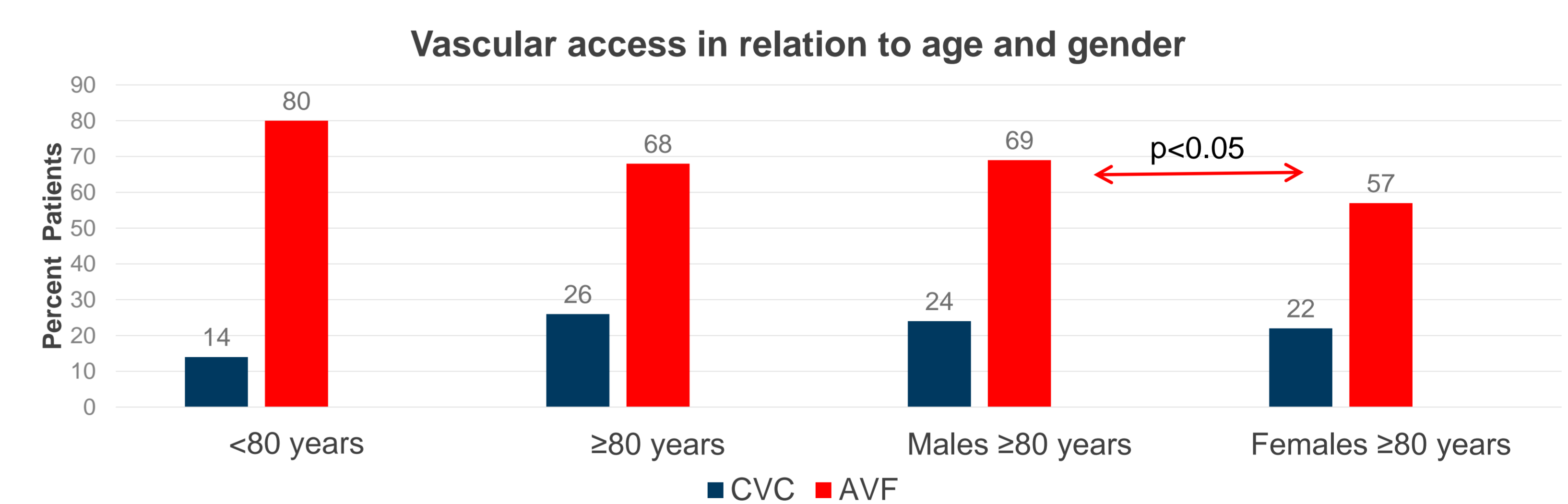
Age	Mean age yrs	Vint months	Bw Post kg	Kt/V	TT min
<80 yrs	63	61	72	1.8	732
≥80 yrs	84	60	65	1.9	717
<i>P</i>	***	NS	***	***	***

Gender Age	Mean Age years	Vint months	Bw Post kg	Kt/V	TT min	Qb ml/min	Tx blood vol %	CVC %	AVF %
Male ≥80 yrs	84	59	67	1.8	715	370	1.25	24	69
Female ≥80 yrs	84	61	63	2.0	719	366	1.28	22	57
<i>P</i>	NS	NS	**	***	NS	NS	NS	NS	*

Age	Hb g/dL	Ferritin µg/L	Alb g/L	Ca mg/dL	Phos mg/dL	iPTH pg/mL
<80 yrs	11	586	42	8.8	4.5	588
≥80 yrs	10.8	669	38	8.9	3.8	478
<i>P</i>	*	*	NS	NS	***	***

Gender Age	Hb g/dL	Ferritin µg/L	Alb g/L	Ca mg/dL	Phos mg/dL	iPTH pg/mL
Male ≥80 yrs	10.9	487	38	8.8	3.8	464
Female ≥80 yrs	10.7	698	38	8.9	3.8	495
<i>P</i>	NS	NS	NS	NS	NS	NS

Age	Qb mL/min	Tx blood volume %	CVC %	AVF %
<80 yrs	377	1.32	14	80
≥80 yrs	368	1.38	26	68
<i>P</i>	**	**	***	***



A similar pattern *between countries* was observed, but elderly patients in Portugal had a significantly lower use of CVC's as compared to corresponding patients in Poland

Comparisons were made using t-test. * indicates p<0.05; ** indicates p<0.01; *** indicates p<0.001

List of abbreviations: Alb, albumin; AVF, arteriovenous fistula; bw, body weight; Ca, calcium, CVC, central venous catheter; Hb, hemoglobin; intact parathyroid hormone; min, minutes; NS, not significant; Phos, phosphorus; Qb, blood flow rate; TT, treatment time; Tx, treatment; vint, vintage; yrs, years.

Summary

- The KDIGO treatment targets for adequacy, anemia, and CKD-MBD were achieved both in patients who were younger and older than 80 years of age, as well as in elderly (≥80 years) males and females respectively.
- Elderly patients (≥80 years) on hemodialysis were prescribed lower Qb and shorter treatments.
 - Despite this they achieved significantly higher Kt/V and significantly better control of phosphorus and PTH.
- The proportion of CVCs was significantly higher and AVFs lower in the elderly.
- Women ≥80 years had lower prevalence of AVF than men.
- There were no differences in the prescription of hemodialysis in relation to gender in the elderly.
- Elderly women had a higher Kt/V and lower body weight than elderly men.
- Mean pre-HD arterial BP, Charlson comorbidity index, and ESA doses were similar in relation to both age and gender.

Conclusions

This multicenter European analysis indicates that there are significant differences in the use of vascular access and in achieving KDIGO adequacy, anemia, and CKD-MBD targets in elderly patients compared to patients under the age of 80 years. Furthermore, there are no or small differences in clinical practice in relation to gender in elderly patients on hemodialysis in Poland and Portugal. Elderly women are less frequently dialyzed via an AVF compared with corresponding males.

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