Vascular Access Impact on Mortality in Elderly Incident Hemodialysis Patients

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BACKGROUND

- Vascular access (VA) type is a key determinant of outcomes in hemodialysis (HD) patients
- Although arteriovenous fistulas (AVFs) are typically preferred, their benefit in patients aged ≥60 years remains uncertain

AIM

- This study assessed the impact of VA type on mortality in patients over 60 years during the first 6 months of HD

METHODS

Prospective, multicenter observational

19 countries

Patients aged ≥60 years who initiated HD in 2023-2024, with follow-up through June 2025

Vascular access (VA) type:

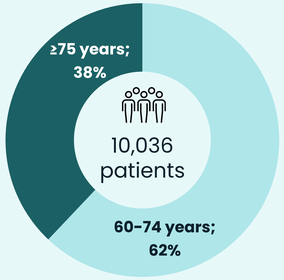
Central Venous Catheter (CVC)

Arteriovenous Fistula (AVF)

Recorded at:
- **Baseline**
- **3 months**
- **6 months**

Kaplan-Meyer curve
Cox regression (hazard ratios and 95% CI) adjusted:
- demographics, comorbidities, dialysis parameters, and access-related complications

RESULTS

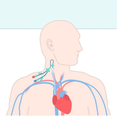


Over the first 6 months, there was a **48.9% reduction** in CVC use

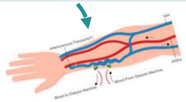
Table 1 - Cox regression for mortality according to the type of vascular access in both age groups, at 3 and 6 months, taking in consideration vascular access type at baseline

	[60-74] years			[>75] years		
	HR	**CI (95%)**	**p-value**	**HR**	**CI (95%)**	**p-value**
Vascular access at 3 months						
Maintained CVC	1	-	-	1	-	-
Maintained AVF	**0.43**	**0.35 – 0.53**	**<0.001**	**0.49**	**0.39 – 0.62**	**<0.001**
Change from AVF to CVC	0.57	0.29 – 1.13	0.110	0.67	0.36 – 1.28	0.223
Change from CVC to AVF	**0.71**	**0.57 – 0.88**	**0.002**	0.89	0.66 – 1.21	0.462
Vascular access at 6 months						
Maintained CVC	1	-	-	1	-	-
Maintained AVF	**0.43**	**0.34 – 0.56**	**<0.001**	**0.50**	**0.38 – 0.65**	**<0.001**
Change from AVF to CVC	0.98	0.58 – 1.68	0.953	0.35	0.14 – 0.87	**0.023**
Change from CVC to AVF	**0.61**	**0.48 – 0.76**	**<0.001**	0.74	0.55 – 0.99	0.040

HR – Hazard Ratio; CI 95% - 95% confidence interval; *overall test. Adjusted for age, gender, diabetes status, ferritin, hemoglobin, TSAT, mean arterial pressure, calcium, ipth, phosphorus, fluid gain, blood flow, dialysis adequacy, treatment time, treatments per week, albumin and days of hospitalization due to vascular access problems and the cardiovascular diseases comorbidities.



Conversion from CVC to AVF:
associated with a **significant reduction in mortality in the 60-74 age group**
at both 3 months and 6 months



At both 3 and 6 months, **AVF use was associated with significantly lower mortality** in both age groups

CONCLUSIONS

AVF use was linked to improved survival in patients aged ≥60 starting HD

These results highlight the value of:

Early AVF planning in older adults,

through:
- individualized decisions
- considering age, comorbidities, and life expectancy

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