

Radiocephalic AVF Use

Insights from the PATENCY-1 and PATENCY-2 Randomized Controlled Trials

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Objective: Delineate clinical characteristics influencing successful radiocephalic AVF use.



Methods



- Post hoc analysis of pooled patient-level data from two placebo-controlled, prospective, multicenter RCTs
 - Intraop application of trial drug
 - Negative results at 1 year, *drug abandoned*
 - **3 years** of prospective followup



- Primary Outcome: **Unassisted** AVF Use
 - 2-needle dialysis for ≥ 90 days, no preceding intervention
- Baseline Covariates
 - Age, sex, race, smoking, diabetes, AVF location, vein/artery diameter, anesthesia



- Statistics
 - Kaplan-Meier curves
 - Cox proportional hazards regression modeling

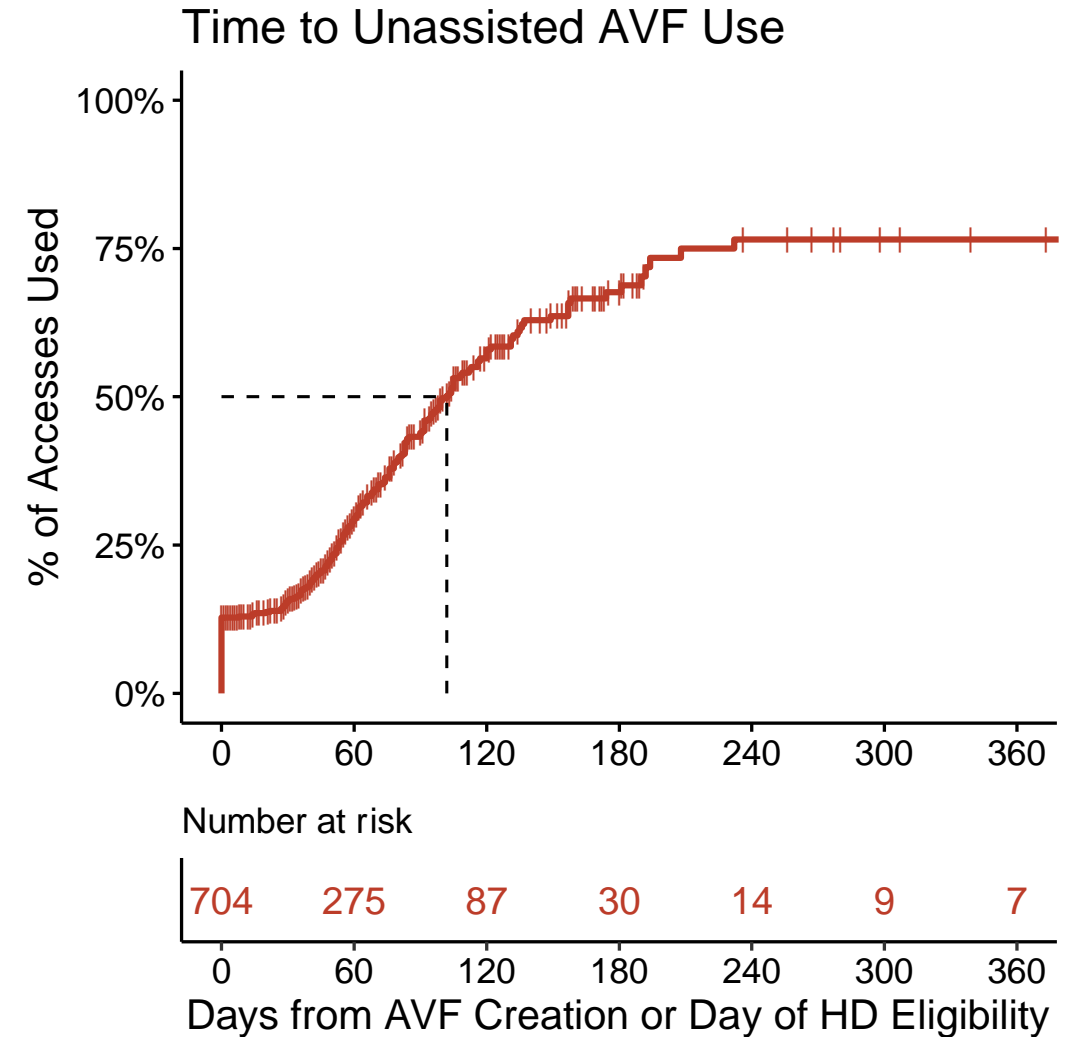
Results

Summary Statistics

- 704 patients eligible for HD
 - Mean age 57 years (SD 13)
 - 22% female
 - 65% white
- 58% on hemodialysis *at time of AVF creation*
- Wrist (74%) > Forearm (24%) > Snuffbox (2%)

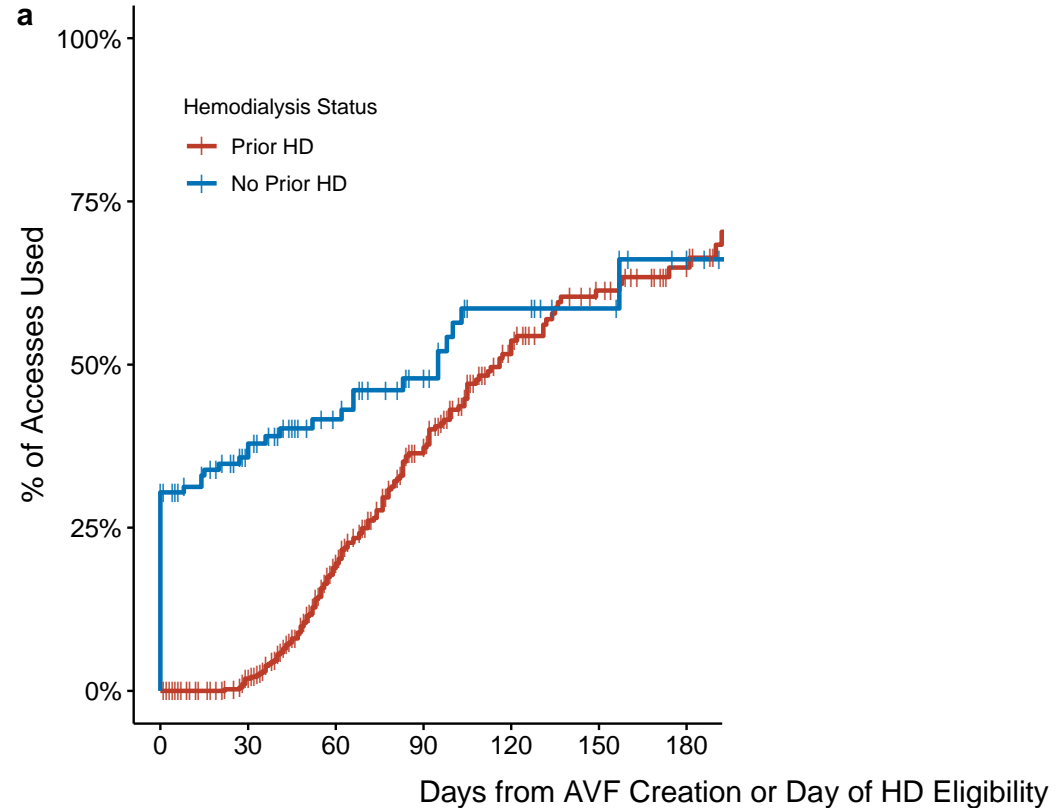
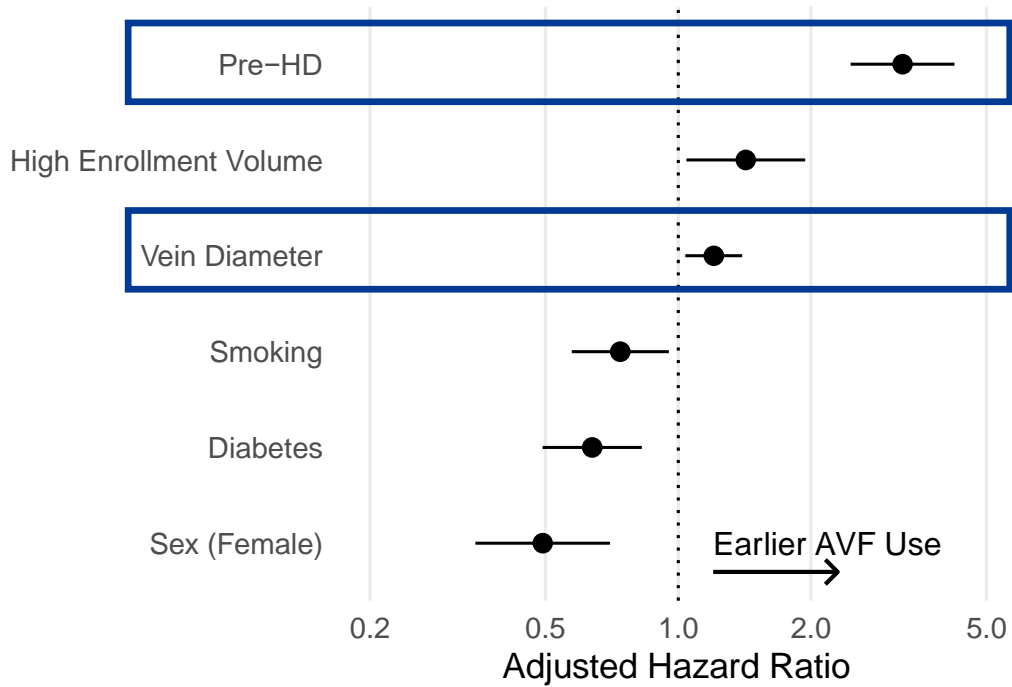
Time to Unassisted Use

- Median followup 719 days (IQR 458-1068)
- Median time to unassisted AVF use 102 days (95% CI 92–116).
- Kaplan-Meier estimates of unassisted use
 - **68.8% at 6-months** (95% CI 61.7–74.6)
 - **76.5% at 1-year** (95% CI 67.5–83.0)



Results

Cox Proportional Hazards (Unassisted Use)



Covariates not displayed ($p < 0.05$): Age, race, AVF location, artery diameter, anesthesia, study drug

Conclusions

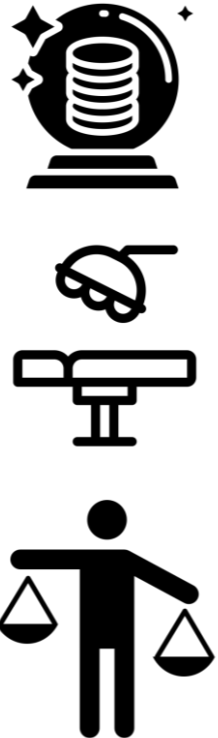
Exploratory results

In a large prospective cohort of new radiocephalic AVFs:

- **Favorable** Association with Unassisted Use
 - AVF creation prior to hemodialysis initiation
 - Larger vein diameter
 - Higher site volume*
- **Unfavorable** Association with Unassisted Use
 - Smoking
 - Diabetes
 - Female sex

What Next?

- **Prediction** of Unassisted Use with postop ultrasound
 - Moving beyond “rule of 6”
- Role of **reintervention** in functional patency
- Understanding **disparities** in AVF outcomes



*Study enrollment volume – not necessarily overall clinical volume



Thank You!

Co-Authors

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