Publication Brief

Prospective Evaluation of the Intra-Access Flow of Recently Created Native Arteriovenous Fistulae

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OBJECTIVE
The authors acknowledge that native arteriovenous fistulae (AVFs) are the preferred type of vascular access for chronic hemodialysis therapy, but suggest there are still questions about newly created fistulae during their early maturation process.

STUDY
To determine
1) If there is an increase in access flow as arteriovenous fistulae grow to maturity from 6 to 28 weeks?
2) Is there a difference in fistulae depending on their location, radiocephalic versus brachiocephalic?
3) Does age, sex, or diabetes influence access flow in native arteriovenous fistula?
4) Is access flow modified by the presence of a formal ipsilateral AVF?

57 patients; 12 did not complete the study for various reasons.

RESULTS
1) At six weeks, fistula flows may already be maximal, possibly suggesting the AVF is fully developed by that time. This corroborates other work that shows that fistulae develop to maturity quickly.
2) Access flow in brachiocephalic fistulae were approximately twice as high as access flow in radiocephalic fistulae.
3) Diabetes did not appear to have a clinically significant impact on the access flow of native fistulae.
4) Early access flow in brachiocephalic fistulae is greater if a previous radiocephalic fistulae existed in the same arm.

CONCLUSION/DISCUSSION
- The authors note that the limitation of the study were the few number of subjects.
- They claim that this is the first study that they know of measuring flows in native arteriovenous fistulae during their first few months of use.
- In their introduction the authors reiterate that the Krivitski Method “has been validated by several investigators and currently is considered as the gold standard for measuring vascular access blood flow rates.”
- The study includes a comprehensive reference list (31 papers) including several that have used ultrasound dilution technology.

Reference: