Publication Brief

Adding access blood flow surveillance to clinical monitoring reduces thrombosis rates and costs, and improves fistula patency in the short term: a controlled cohort study

BACKGROUND
Access blood flow (Qa) measurement is the recommended method for fistula (AVF) surveillance for stenosis, but its benefit cost-effectiveness is questionable.

STUDY
• A 5-year controlled cohort study that evaluated whether adding vascular access surveillance to unsystematic clinical monitoring (combined with elective stenosis repair) reduces thrombosis and access loss rates, and costs in mature AVFs.
• Data was collected in 159 haemodialysis patients with mature AVFs, 97 followed by unsystematic clinical monitoring (Control) and 62 by adding Qa surveillance to monitoring (Flow).
• Indications for imaging and stenosis repair were: clinically evident access dysfunction in both groups and a Qa < 750 mL/min or dropping by >20% in Flow.

RESULTS
• Qa surveillance increased access imaging, stenosis detection and elective repair, and reduced thromboses, central venous catheter placements and access losses.
• Mean access-related costs were 1213 Euro/AVF-year in group that did not receive surveillance and 743 Euros/AVF-year in access surveillance group (470 Euro/AVF-year savings).

STUDY’S CONCLUSIONS
The controlled cohort study shows that adding Qa surveillance to monitoring in mature AVFs is associated with a better detection and elective treatment of stenosis, and lower thrombosis rates and access-related costs, although the cumulative access patency was only extended in the first 3 years after fistula maturation.

TAKE HOME POINTS
1. The authors (proponents of vascular access screening) acknowledge that the overall quality of the trials they analyzed was “poor to moderate.” “As with all systematic review, the conclusions’ strength is influenced by the quality of the studies on which they were based.”
2. At the heart of the study is a call for properly conducted clinical studies to determine the optimal means for performing access surveillance. They advise that studies be separated by access type and would need 850 fistula patients (rather than the 141 total used in this study).
3. Specific Points in Study
   a. “Access surveillance more beneficial in fistulas than grafts in preventing thrombosis.” Is this more a condemnation of grafts and support for Fistula First programs?
   b. “Access surveillance in fistulas rather than grafts significantly reduced the relative risk of thrombosis when compared with dynamic venous pressure screening.” Good ammunition to compete with dynamic venous pressure programs such as VascAlert.
   c. “Time to thrombosis in fistula patients significantly longer in surveillance group than in control group.”
      • It is expected that most fistulas will fail at some time or other.
      • An objective of surveillance is to prolong the time between failures.

Reference:
(Transonic Reference # HD7639A)