Publication Brief

Graft surveillance: venous pressure, access flow, or the combination?

Smits JH, Department of Nephrology, University Medical Center, The Netherlands.

BACKGROUND

Increased venous pressure (VP) and decreased access flow (Qa) are predictors of dialysis access graft thrombosis. VP is easily obtainable. Qa assessment requires a special device and takes more time. The aims of our randomized multicenter studies were to compare outcome in patients with grafts monitored by VP or Qa (study A) or monitored by VP or the combination of VP and Qa (study B).

METHODS

- Weekly VP measurements were performed: pump flow of 200 mL/min (VP200) and a ratio of VP0/MAP.
- Qa was measured every eight weeks with the Transonic HD01 Hemodialysis Monitor.
- Threshold levels for referral for angiography were VP200 > 150 mm Hg or VP0/MAP > 0.5 (both at 3 consecutive dialysis sessions) or Qa < 600 mL/min.
- Subsequent therapy consisted of either percutaneous transluminal angioplasty (PTA) or surgery.

RESULTS

- Total follow-up as 80.5 patient-years for 125 grafts.
- The vast majority of a total of 131 positive tests was followed by angiography and corrective intervention.
- In study A, the rate of thromboses not preceded by a positive test was 0.19 and 0.24 per patient-year (P = NS), and in study B, it was 0.32 versus 0.28 per patient-year (P = NS).
- Survival curves were not significantly different between the subgroups.

CONCLUSIONS

Data demonstrate that standardized monitoring of either venous pressure or access flow or the combination of both and subsequent corrective intervention can reduce thrombosis rate in grafts to below the recommended quality of care standard (that is, 0.5 per patient-year, NKF-DOQI). These surveillance strategies are equally effective in reducing thrombosis rates.

REFERENCE: