Publication Brief

Hemodialysis graft flow surveillance with prompt corrective interventions improves access long-term patency

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BACKGROUND

Hemodialysis arteriovenous graft (AVG) patency is dependent on favorable flow characteristics.

OBJECTIVE

To examine hemodynamic, humoral risk factors, and the effects of stringent flow surveillance coupled with prompt corrective intervention on long-term graft patency.

METHODS

- 29 month study;
- 92 chronic hemodialysis patients with AVG were evaluated monthly by flow surveillance;
- Clinical diagnosis of failing graft was based on flow reduction, and a patient’s unique medical history and hemodynamic parameters;
- Angiography and corrective intervention were performed on failing grafts.

RESULTS

- Arteriography revealed stenotic lesions in 94.5% of the cases.
- Low ejection fraction, early postoperative intervention, and low baseline flow were associated with a statistically significant reduction in intervention-free interval (p < 0.05).
- Mean AVG flow threshold prior to intervention was 463 +/- 154 ml/min, corresponding to a mean flow reduction of 45 +/- 12%.
- Total graft thrombosis rate was 0.21 thrombotic episodes/patient year.
- Primary graft patency at 6, 12, and 24 months was 76, 44 and 35%, and secondary patency 99, 97, 88%, respectively.

CONCLUSIONS

- Stringent flow surveillance policy coupled with prompt intervention has been effective in maintaining AVG long-term patency.
- Patients with decreased ejection fraction, early post-operative intervention, and low baseline AVG flow are prone to graft thrombosis.
- Access blood flow of less than 800 mL/min. Angiograms confirmed that all ten had a stenosis of greater than 50%. Angiography detected stenoses greater than 50% in 16 of the 19 grafts surveyed.

REFERENCE

(Transonic Reference # HD7851A)