Regular monitoring of access blood flow rate compared with monitoring of venous pressure fails to improve graft survival

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BACKGROUND
Regular vascular access blood flow (Qa) surveillance is recommended to detect graft stenosis. However, there is little evidence that monitoring and correcting with angioplasty improves graft survival.

OBJECTIVE
To check the hypothesis that monitoring and correcting with angioplasty improves graft survival.

STUDY
• Blinded, randomized, controlled trial;
• 112 patients studied time to graft thrombosis and graft loss;
• Dynamic venous pressure measurement plus clinical evaluation or monthly access flow measurement coupled with elective revisions were compared to standard surveillance alone (control group);
• Only the treatment group was referred for angiogram if Qa <650 ml/min or a 20% decrease in Qa from baseline;
• Percutaneous angioplasty was performed for stenosis >50%.

RESULTS
• No significant difference in graft thrombosis (0.41/patient year - control vs. 0.5 /patient year - access flow) or time until access abandonment was seen;
• Fifty-one interventions (0.93/patient-years at risk) were performed in the treatment group versus 31 interventions (0.61/patient-years at risk) in the control group. There was no difference in time to graft loss (P = 0.890).
• Aspirin therapy, higher access flow and longer time since access placement (access vintage) were associated with a lower risk of graft thrombosis.

CONCLUSIONS
• Graft surveillance that uses Qa increases the detection of stenosis, compared with standard surveillance;
• Intervention with angioplasty does not improve the time to graft thrombosis or time to graft loss.

REBUTTAL
The low control group thrombosis rate was achieved in a facility staffed by registered nurses who routinely perform physical examinations and dynamic venous pressure measurements and have been involved in vascular access studies throughout the past decade. This clinical process resulted in a graft thrombosis rate approximately half of that typically seen in programs across the United States (0.41 thromboses/patient year versus typical US graft thrombosis rate of 0.8-1.0/patient year). Access flow measurement would not be expected to markedly improve this outcome.

REFERENCE