

Midwestern Vascular Surgical Society



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PROGRAM BOOK

3. **Revisiting Bovine Carotid Artery Grafts for Dialysis Access - Early and Mid Term Results of a Comparative Analysis Using PTFE and Bovine Carotid Artery Conduits**

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OBJECTIVES: Despite the NKF-DOQI guidelines for creating autogenous fistulas, there remain a significant number of patients who will require arteriovenous grafts (AVG) for dialysis access. Though used initially as the conduits of choice, Bovine Carotid Artery (BCA) Grafts were replaced by Polytetrafluoroethylene (PTFE) grafts for AVG. We report early and mid term results of a large group study comparing the use of BCA grafts with PTFE grafts for dialysis access.

METHODS: Retrospective data comparing the results of PTFE and BCA grafts placed at our center in dialysis population were evaluated. Data from 646 consecutive patients who had AV grafts placed (Aug 2002 to June 2006) using PTFE material were compared with 209 patients who had BCA grafts (May 2006 to March 2008) for dialysis access. Graft survival in both groups was evaluated using Kaplan-Meier method. Reasons for abandoning the access such as infection, thrombosis, steal syndrome, seroma formation were evaluated and compared in each group .

RESULTS: Between 2002-2006 the conduit of choice was PTFE (n=646) while in the past two years we have used Bovine grafts (n=209) as the material of choice. Both groups were comparable in terms of age, sex, incidence of diabetes, and dialysis status at the time of procedure, graft site, and history of prior graft with no statistical difference ($p>0.05$). The primary and secondary patency at 6 months for the BCA group was 65%, 80% versus a 52%, 73% for the PTFE group. One year primary and secondary patency was 58%, 75% for the BCA group compared with 41%, 64% for the PTFE group. There was a statistically significant difference in primary ($p=0.002$) and secondary patencies ($p=0.028$) in favor of bovine grafts with fewer secondary reinterventions. There was no statistical difference in variables for both groups for abandoning the graft.

CONCLUSIONS: Though autogenous fistula remains the procedure of choice, there exist a significant number of patients who will require grafts for dialysis access. Bovine grafts offer a superior primary and secondary patency in comparison with PTFE grafts. Results from our study suggest that bovine grafts should be considered as the material of choice for creating an AV graft for dialysis access. A larger prospective randomized study comparing these two materials will be useful in lieu of these results.