



SWSC 2020 On-Demand Meeting Abstracts

26. A RETROSPECTIVE REVIEW OF BOVINE ARTERY GRAFT PATENCY: A SINGLE SITE STUDY

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Background: Hemodialysis dependent population is an ever expanding one with 600,000 patients in the United States having end-stage renal disease and more than 100,000 patients being diagnosed with chronic kidney disease each year. More than sixty percent of these patients require maintenance on hemodialysis. Repetitive puncture during dialysis necessitates the most durable conduits for access. Bovine carotid artery (BCA) grafts have been described as a possibly superior alternative to expanded polytetrafluoroethylene (ePTFE) grafts, however, published experience remains limited with a wide range of outcomes.

Methods: All patients who underwent placement of a BCA graft between January 2017 and October 2018 were retrospectively reviewed and all revisional procedures were tabulated in a retrospectively reviewed database. Demographics, operative reports, patency rates, and additional procedures were analyzed. The data was analyzed retrospectively under an IRB -approved protocol. BCA grafts were placed in a varying configurations which were also analyzed. Primary patency was defined as the interval from graft placement to the first intervention performed to relieve stenosis or occlusion. Primary assisted patency was defined as the interval from graft placement to the first episode of occlusion. Secondary patency was defined as the interval from construction of the graft until the graft was abandoned. Data are reported as the mean with standard deviation or the range. Kaplan-Meier life-table analysis was performed for primary, primary assisted, and secondary patency.

Results: 74 patients were reviewed. 36 were male and 38 were female. The mean age was 59.7 ± 13.5 with a range of 28-84. The mean BMI was 29.8 ± 9.2 with a range of 17.4-60.4. Several comorbidities were tabulated and include: hypertension (92%), diabetes (57%), lupus (5%), congestive heart failure (28%) and chronic obstructive pulmonary disease (4%). The various configurations were reviewed: axillary-axillary (18.9%), brachial-basilic (5.4%), brachial-brachial (4.1%), brachial-cephalic (1.4%), interposition/access salvage (40.5%), axillary-brachial (1.4%), brachial-axillary (23%), femoral-femoral (5.4%). 12 month primary patency was 50%. 12 month primary assisted patency was 66%. 12 month secondary patency was 81%. Primary patency between genders trended towards significant differences at the 12 month period but were not different between BMI groups. The average patency of a bovine graft was 17.8 ± 8 months. 61% of our grafts needed intervention with 24% required multiple interventions. There was an average of 7 ± 5 months to first intervention. Our infection rate was 8.1%.

Conclusion: Our single site data shows primary, primary-assisted and secondary patency rates that were higher than those of PTFE in the literature (10-40% reported rates). Obesity alone did not appear to affect patency in our population. Females tend to have lower patency rate at 12 months in this population. Infection rates appear to be comparably low and acceptable when compared to the reported infection rates of 4-17%.



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