

RF7. Arterial Reconstruction of the Perivisceral Aorta with Cryopreserved Human Allografts in the Setting of Infection: A Single-Center Experience with Mid-term Follow-up

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OBJECTIVES: Aortic infections are a challenging problem with significant morbidity and mortality. Options for repair include in-situ replacement with antibiotic soaked prosthetic grafts, extra-anatomic reconstruction with resection of the infected segment and ligation of the aortic stump, or use of the autogenous femoral vein for in-situ aortic reconstruction. When the peri-visceral segment of the aorta is involved, the options for reconstruction are even more limited. The use of cryopreserved human allograft (CHA) for infra-renal reconstruction has shown promise and may hold similar benefit for aortic reconstruction above the renal arteries.

METHODS: Between 2005 and 2009, a total of 30 aortic or aorto-iliac reconstructions were performed using CHA for primary aortic or aortic graft infections, 9 of which involved the peri-visceral aorta. The indications for repair were symptomatic mycotic peri-visceral aneurysm (n=7) and infected endograft with suprarenal fixation (n=2). Wide local debridement and culture followed by replacement of the affected segment of aorta with CHA or endarterectomy of the affected segment and patch repair of the aorta with CHA was performed in all patients.

RESULTS: Thirty day mortality was 0%. All patients are alive with follow-up ranging from one to 40 months (mean = 15 mos). One patient required re-exploration for hemorrhage 7 days after reconstruction due to ongoing infection with candida and degeneration of the homograft. Average lengths of stay were 4.3 days in the ICU and 11.5 days in the hospital. Cultures were positive in 4. The organisms cultured were MRSA (n=1), propionibacterium acnes (n=1), Salmonella and candida albicans (n=1), streptococcus pneumonia (n=1). Complications included 4 patients with post-op renal insufficiency, 2 requiring hemodialysis, and one patient with stenosis of renal artery-homograft anastomosis requiring endoluminal therapy. Based on CT follow-up, no graft thromboses, re-infection, degeneration or aneurysm formation has occurred.

CONCLUSIONS: In the setting of infection, CHA reconstruction is a viable option for repair of the perivisceral aorta and appears to have durable resistance to reinfection, thrombosis or aneurysmal degeneration. Larger patient populations and longer follow-up are needed.