Mycotic abdominal aortic and iliac aneurysms in a
4-month-old treated with a cryopreserved homograft

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A 4.4-kg, 4-month-old girl with transposition of the great vessels and coarctation of the proximal descending thoracic aorta presented 3 weeks after surgical correction with fulminant endocarditis and persistent enterococcal bacteremia, despite adequate antimicrobial coverage. Computed tomographic angiography revealed a 10-mm aortic pseudoaneurysm just distal to the superior mesenteric artery, occlusion of the right renal artery, and a 12-mm pseudoaneurysm at the aortic bifurcation extending into the left common iliac artery (A).

We proceeded with surgical repair of the aneurysms through transabdominal approach. Exposure of the aorta revealed two pseudoaneurysms surrounded by a thin friable wall and a dense covering of inflammatory tissue (B, aortic and left common iliac artery pseudoaneurysm). The mycotic aneurysms were excised to clinically normal aortic wall margins. A 5-mm cryopreserved adult femoral artery homograft was implanted from the suprarenal aorta to the left distal common iliac artery, incorporating the left renal artery and the origin of the right common iliac artery (C). Cultures grew Enterococcus and coagulase-negative Staphylococcus from both aneurysms.

The patient underwent repair of her congenital cardiac anomalies 1 week later. After a prolonged hospital stay, she was dismissed, feeding well and gaining weight. She returned 4.5 years later, without clinical evidence of recurrent infection, aortic narrowing, or compromise. A computed tomographic scan showed patency of the homograft, with partial calcification of the wall, minimal intimal hyperplasia, and no evidence of infection or recurrent aneurysms (D).

DISCUSSION

Aortic aneurysmal disease in the pediatric patient is exceedingly rare, with causes attributable to infection, connective tissue disorders, vasculitides, and trauma.1 Infectious etiology is often associated with a history of cardiac anomalies, umbilical catheterizations, or iatrogenic arterial trauma.1,2 Extraanatomic reconstruction options for infected aortic aneurysms are unappealing in infants and in situ reconstruction is favored.3 Availability of autogenous conduits remains a problem, but cryopreserved homografts are viable alternatives with very low reinfection rates. As the child grows, reoperation because of size mismatch is likely needed. Late graft-related complications, such as thrombosis or aneurysmal changes, are still unknown.1,4

REFERENCES


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