

Pedal Bypasses and Thromboembolectomies to Treat Trashfoot after Open and Endovascular Abdominal Aortic Aneurysm Repair: A New Approach to an Old Problem

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Purpose

Lower extremity embolization occurs during aortoiliac aneurysm (AAA) repair and may require major amputation when distal arteries are occluded. Since non-operative treatments are often ineffective, we evaluated an aggressive operative approach.

Methods

Over the past 12 years, we performed 378 endovascular and 400 open AAA repairs. Excluding cases of embolization to iliac, femoral, popliteal, and more proximal tibial vessels (which were treated in a standard fashion), foot ischemia severe enough to produce cadaveric, pre-gangrenous or gangrenous skin changes occurred from more distal embolization after eight endovascular and three open AAA repairs. Seven of these 11 patients had thromboembolectomies of both their dorsalis pedis (DPs) and perimalleolar posterior tibial (PTs) arteries within 4 hours of their original operation. In the other four patients, treatment was delayed 7 to 10 days. Because of progressive foot ischemia, arteriography was performed. Based on this four bypasses (three autologous vein, one polytetrafluoroethylene graft) were performed to the transverse metatarsal arch, DP, perimalleolar peroneal artery, or perimalleolar anterior tibial artery.

Results

Patency and limb-salvage rates for both thromboembolectomy and bypass procedures were 100% at a mean follow-up of 4.0 years (range 3 months to 9 years).

Conclusions

Thus, perimalleolar and foot artery thromboembolectomy and bypasses to arteries as distal as the metatarsal arch can be effective treatment for distal embolization from aortoiliac aneurysm repair. Even when cadaveric, pre-gangrenous or gangrenous lesions are present, distal arteriography and operative treatment (thromboembolectomy and bypass) may be indicated to successfully salvage the foot.