

Crossing Iliac Artery Occlusions for Endovascular Abdominal Aortic Aneurysm Repair: A Viable Option

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Background: Iliac arterial occlusive disease is considered a contraindication for endovascular abdominal aortic aneurysm repair (EVAR). Endovascular treatment for iliac arterial chronic total occlusions (CTO) has been established. We report the feasibility of EVAR in the treatment of abdominal aortic aneurysms associated with CTO of the iliac arteries.

Methods: A retrospective analysis of a computerized database with 556 consecutive EVAR between October 1999 and February 2005, seven patients (n=7) were identified with CTO of iliac arteries. Endpoints included medical morbidity, operative technical details, operative time, pre and post operative ankle-brachial indices and aneurysm size. Paired t-test was used to evaluate for statistical significance.

Results: Seven of 556 (1.3%) patients with CTO of iliac arteries and abdominal aortic aneurysms were successfully treated with EVAR and various adjunctive intra-operative procedures. All occlusive lesions were TASC D category. Four patients with 5 occluded iliac arteries were treated with bifurcated grafts and three patients with three occluded iliac arteries were treated with aorto-uni-iliac grafts (one cross femoral bypass). There were no post operative deaths. Mean procedure time was 220 minutes (range 162-283 minutes). Median post operative length of stay was 2 days and a single patient with a ruptured abdominal aortic aneurysm required 19 days of post operative care. During the mean follow up of 5 months (1-12 months) the clinical success was 100% with no aneurysm or procedure related deaths. One patient had type II endoleak but has shown decrease in diameter of the aneurysm sac during follow up. Mean ankle-brachial indices of the six CTO iliac arteries improved from 0.3 to 0.7 (p=0.0084). All patients who had CTO treated had clinical improvement of ischemic symptoms.

Conclusion: This series shows the feasibility of EVAR in patients with iliac arterial occlusion. In patients with abdominal aortic aneurysms associated with iliac arterial occlusion, EVAR may provide similar short term results compared to open arterial reconstruction of occlusive disease. Direct anatomic bi-iliac reconstruction may be more advantageous than aorto-uni-iliac reconstruction when treating patients with iliac CTO.

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