**DEBATE:** Open Surgical Repair For Juxtarenal Aortic Occlusive Disease Is Simpler, Safer And Better Than Endovascular Approaches: Technical Tips

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**INTRODUCTION:** Symptomatic atherosclerotic occlusive disease involving the infrarenal abdominal aorta and/or both of the iliac arteries was firstly described and treated by René Leriche on the 19th century in early nineteen’s (1). This aortic occlusive disease has been recently classed by TASC II within type D lesions together with different pattern of iliac occlusive disease. Open repair is the accepted treatment option of aortoiliac type D lesions. However, in the last 5 years different studies demonstrated the feasibility and safety of endovascular treatment of type D lesions that involved only iliac arteries (2-4). Recently few papers have been published regarding endovascular treatment of Leriche’s syndrome (5, 6) with high rates of technical success but with high rate of mortality and morbidity.

The aim of this communication is to evaluate results of open repair of Leriche’s syndrome to provide referral results for the upcoming endovascular repair reports.

**MATERIALS AND METHODS:** Between 1991 and 2013, 1,177 patients (mean age 68 ± 13 years, 892 males) received open repair for TASC C and D aortoiliac occlusive disease. Among this series 131 patients presented with Juxtarenal Aortic Occlusion and were repaired with in “situ” anatomical synthetic aorto-biiliac or bifemoral bypass grafting. In 64 cases (48.8%) bypass grafting was associated to aortic endarterectomy, renal grafting or endarterectomy in 18 cases (13.7%), femoral endoarterectomy in 36 cases (27.5%), peripheral embolectomy in 72 cases (54.9%). We recorded a 30 days mortality of 1.5% and morbidity included: cardiovascular events in 4.5% of cases, respiratory failure in 4.5% of cases and renal failure in 16.0% of cases (temporary renal failure in 15.3% and permanent dyalisis in 0.7% of cases). At a mean follow-up of 36 months (r. 1-58 months) we recorded a primary patency of 91.6% and a secondary patency of 95.4%. Long-term complications included: proximal and distal anastomotic pseudoaneurysm in 3.0 % of cases, graft infection in 1.5% of cases (associated with aorto-enteric fistula in one case) and anastomotic restenosis in 7.6% of cases.

**DISCUSSION:** Dietrich et al (7) firstly reported in 1993 fully endovascular treatment of juxtarenal aortic occlusive disease in 7 cases with a technical success of 71.4% and overall morbidity of 28.6% due to limb embolization or thrombosis. The two largest series regarding endovascular treatment of Leriche’s syndrome have been published by Nyman et al. (8) and by Moise et al. (9). They reported a technical success of 83.3% and 80.6% respectively. Main morbidity included: access site complications in 3.3% and 19.4% respectively, limb embolization or thrombosis in 3.3% and 6.5% respectively, and renal failure in 0% and 16.1% respectively. An english literature
review individuated 76 cases (7-10) cases of aortic juxtarenal occlusion treated with endovascular procedures with an overall mortality of 2.6% and morbidity of 25%. Moreover the follow-up primary patency ranged form 66% to 100%.

These current results demonstrated that endovascular treatment of juxtarenal is technical feasible with mortality and morbidity still not negligible with at present no evidence of clearly advantages. The Achilles’ heel of current technique is the high rate of failure, with low rate of long-term bilateral limb patency and increased perioperative risk of limb and renal embolization / thrombosis. Moreover procedure is technical demanding with the need of multiple peripheral access and increased risk of access site complications.

Open repair of Leriche’s syndrome allows to achieve high rates of technical success, to address concomitant renal, splanchnic and distal occlusive disease with low morbidity rates and to obtain durable and consolidated long-terms patency rates. The open repair is associated to acceptable mortality and morbidity rates (11) as confirmed by our experience. These consolidate results, at present, are not reproducible with endovascular repair and they should be considered the benchmark for future comparative studies.

CONCLUSIONS: Open repair remains the gold standard for treatment of this complex TASC D pathology with acceptable short and long-term results.

References:


