Endovascular Management of Aortoiliac Occlusive Disease

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Background:

Patients with aortoiliac occlusive disease (AIOD) may be asymptomatic or may have intermittent claudication or critical limb ischemia.

Treatment options for AIOD include management of risk factors, endovascular intervention, and/or surgical revascularization.

Endovascular therapy is the treatment of choice for type A and the preferred treatment for type B lesions. In selective patients, this type of treatment can be applied in type C and even type D lesions. Ipsilateral femoral, contralateral femoral, and brachial approach and both the intraluminal and subintimal space can be used for successful recanalization.

The choice of stent type depends on lesion morphology and location but otherwise there is insufficient evidence to support the use of a particular stent design.

Case Report:

67-year-old white female with CAD post coronary artery bypass grafting, complete heart block s/p pacemaker with severe peripheral vascular disease was diagnosed to have bilateral aortoiliac disease with aorto-ilio-bifemoral angiography confirming in-stent restenosis of bilateral iliac artery stents. A successful covered stent was placed and balloon angioplasty procedure was performed on the 85% lesion in the left common iliac artery. Following intervention there was an excellent angiographic appearance with a 0% residual stenosis. This was a bifurcation lesion. There was no evidence of the transient no-reflow phenomenon. This was followed by another covered stent and balloon angioplasty procedure was performed on the 80% lesion in the right common iliac artery.

Initial aortogram demonstrating infrarenal aortic occlusion with distal reconstitution prior to the aortoiliac junction.

An angled glidewire was advanced into the left common iliac artery and percutaneous transluminal angioplasty (PTA) of the distal aorta was performed.

Right femoral artery access was obtained and a wire passed through the flap. This wire was ultimately exteriorized through the left brachial sheath.

A distinct stenosis is now seen in the left common iliac artery. Thus, simultaneous self expanding bare metal stents were deployed in the distal aorta into each the left and right common iliac. A crossing configuration was used, effectively recreating the aortoiliac bifurcation.

Final result demonstrating brisk flow with patent stents and no focal obstructions.

Discussion:

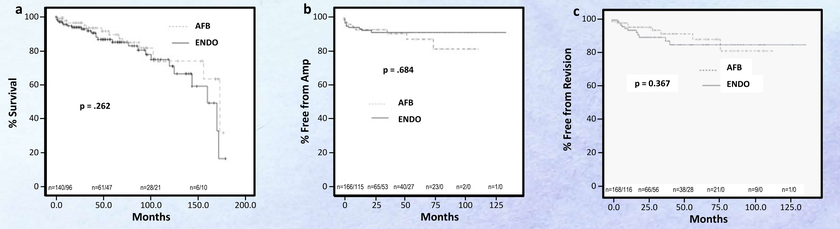
Traditionally, TASC C/D lesions are referred for surgical repair. Between 1997 and 2007, 118 aortofemoral bypass (AFB) and 174 aortic stent (AS) procedures were performed in 161men (55.1%) and 131 women at a single center.

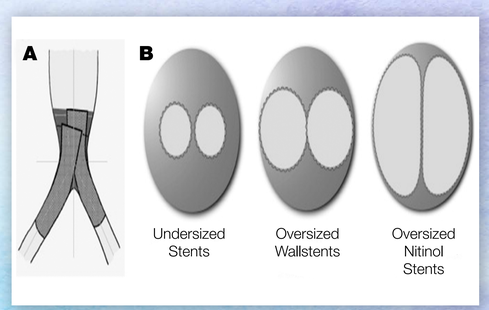
No difference between AFB and AS groups with respect to 30-day mortality (0.8% and 1.1%, $p < 0.64$), myocardial infarction (1.7% and 1.1%, $p < 0.53$), cerebrovascular accident (0.0% and 1.1%, $p < 0.35$), or renal failure requiring hemodialysis (3.4% and 1.2%, $p < 0.19$).

AFB was associated with increased surgical complication rates including the need for emergency surgery (6.8% and 1.7%, $p < 0.029$), infection/sepsis (16.1% and 2.3%, $p < 0.001$), transfusion (16.1% and 5.7%, $p < 0.004$), and lymph leak (8.5% and 0.6%, $p < 0.001$).

Access site as well as distal embolization are the primary complications (3.5% vs. 8-13% OR rate)

Freedom from mortality, revision, amputation similar.





Female gender, prior occlusion-univariate risk factors

Geometric mismatch may affect patency rates.

Conclusions:

The high prevalence of AIOD and potential for severe lifestyle-limiting claudication and/or tissue loss necessitates appropriate evaluation and management of this disease.

With a combination of medical management of modifiable risk factors, accurate noninvasive and/or invasive diagnostic evaluation and endovascular and/or surgical revascularization when appropriate, symptomatic aortoiliac disease is often improved.