Background

Endovascular intervention with kissing stenting (KS) is the first-line treatment for complex aortoiliac occlusive disease (AIOD) and it is related to less morbidity and a shorter hospital stay compared with open surgery. Unfortunately, recent study reported a primary patency of KS at 2-year follow-up of 79% (1). The geometry of the KS configuration was previously identified as a risk factor for restenosis and thrombosis (2). To achieve better long-term patency in 2013, a new technique named the covered endovascular reconstruction of the aortic bifurcation (CERAB) technique was introduced. Three-year FU confirmed the good outcome of the CERAB technique for extensive AIOD with a primary, primary assisted, and secondary patency rates of 82%, 87%, and 97%, respectively (3). We want to report our single center experience with CERAB in the relining of failed previous aorto-iliac stenting.

Patients and Methods

Between February 2019 and September 2019, 8 patients (2 with previous aortic bare metal stenting, 5 with kissing stenting, one with unilateral common iliac artery covered stent) were diagnosed with intermittent claudication and treated with CERAB technique. Lesion morphology was evaluated by computed tomography angiography (CTA). All lesions were 2 TASC II B, 3 TASC II C and 3 TASC D lesions. Follow-up consisted of clinical assessment and duplex ultrasound at one, three, and six months follow-up. Patency rates and clinically driven target lesion revascularization were calculated.

Results

All the CERAB procedure were performed with BeGraft Aortic and Peripheral Stentgraft System (Bentley InnoMed GmbH, Hechingen, Germany). Technical success was obtained in all the procedures (100%). Primary patency at all scheduled FU was 100%. No complications were reported. There was no 30-day mortality. Median hospital stay was 1 days (range 1-3).

Discussion

Kissing stenting was introduced as an alternative to open surgery in the treatment of aortoiliac disease involving the aortic bifurcation. Despite the high technical success (98.7% as reported by recent reviews), the low complication rate (10.8%) and the patency during time (at 12, 24 and 60 month 89.3%, 76.6%, and 69.0%, respectively), the rate of interventions ranges between 0% and 62.5%, mean 20.9% (1). The loss of patency can be related to the type of stents (bare/covered), stent protrusion into the distal aorta, crossed configuration, post dilatation, previous interventions and patient demography (4). In particular, a long stent protrusion into the distal aorta could limit the possibility of an endovascular relining only to a second kissing stent procedure with bare metal stent in order to not overextend aorto branches (as lumbar arteries and inferior mesenteric artery, or in some case, renal arteries), or to open surgery. In our series, all the patients have been treated with CERAB with BeGraft Aortic and Peripheral stentgrafts. These devices, thanks to their wide range of lengths and diameters, and small profile, allowed for a tailor-made reconstruction of the aortic bifurcation even in case of long protrusion of the failed kissing stenting. An accurate analysis of the CT angiography before the procedure was mandatory to evaluate the characteristics of the previous KS, its aortic protrusion and configuration, the aortic length between the proximal end of the stents and the aortic collaterals, the diameter of the aorta and iliac arteries in order to plan the CERAB.

Conclusions

The CERAB technique with BeGraft stentgrafts appears to be a safe and feasible technique in the relining of failed aorto-iliac stenting in complex occlusive disease. An accurate planning of the procedure based on the analysis of base line CT angiography is mandatory in order to achieve technical and clinical results. Longer follow up and larger cohorts of patients are needed to confirm our preliminary results.

References


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