ENDOVASCULAR REVASCULARISATION OF OCCLUSIVE ILIAC DISEASE USING THE OUTBACK™ ELITE RE-ENTRY CATHETER

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PATIENT PRESENTATION:

A 65-year-old male patient, with diabetes mellitus, hypertension, and ex-smoker presented to our department with severe left leg intermittent claudication at 50 meters. He had a left buttock claudication and had non-palpable left femoral and distal pulses, with monophasis waveform at posterial tibial and dorsalis pedis arteries. A computer tomography angiography confirmed occlusion of the left common and external iliac arteries with heavy calcifications. It also showed a diseased distal abdominal aorta with advanced atherosclerosis and patent right iliac arteries and patent right and left femoral arteries.

The initial management was to lower the patient's blood sugar and pressure with statin and supervised exercise, cilastazol 100mg BID was prescribed, however after 3 months there was no significant improvement in walking distance. After counseling with the patient, the decision was taken to undergo endovascular revascularization with angioplasty and kissing iliac stenting.

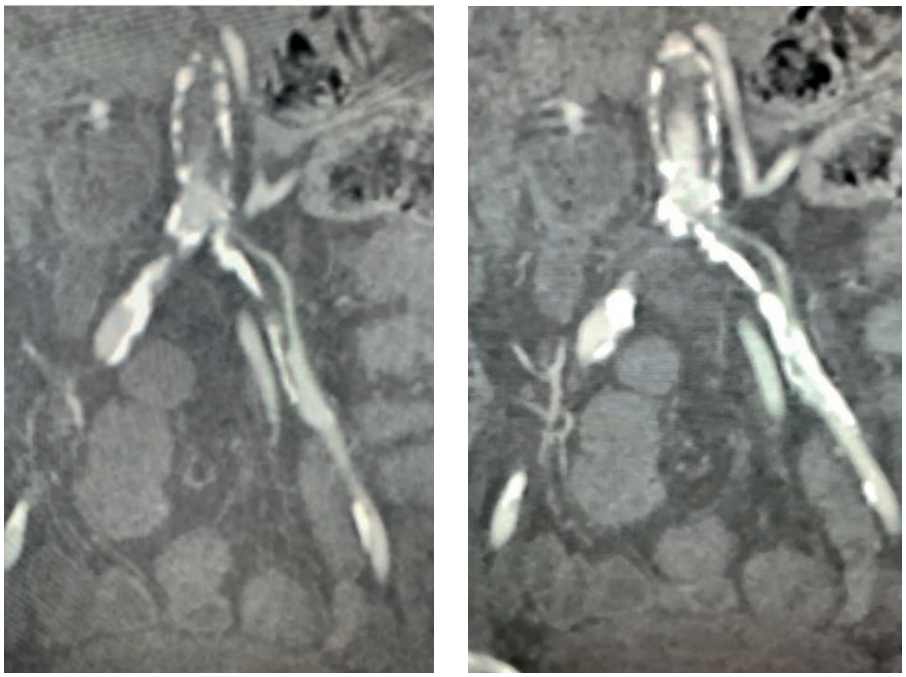

Fig. 1: CT angiography coronal reconstruction showing severe osteal stenosis at right common iliac and total occlusion of the left common iliac artery with extensive calcification on the left side.

INTERVENTIONAL PROCEDURE:

The procedure was performed under local anaesthesia. Bilateral femoral access was obtained and 6F sheaths (BRITE TIP™ Introducer, Cordis) were inserted on both the right and left sides. An .014-inch guidewire (Command™ Guidewire, Abbott) was advanced, and it crossed the occlusion on the left side sub-intimally, there was then difficulty to re-enter into the true lumen despite multiple trials and different crossing techniques (subintimal flossing, combined ante and retrograde access). The OUTBACK™ Elite Re-entry Catheter (Cordis) was used and the wire was easily directed to the true lumen. It was followed by kissing balloon angioplasty and stenting. The lesions were pre dilated with small balloons 6 mm x 4 cm (Armada™ Balloon Catheter, Abbott) followed by bilateral iliac stenting using covered stents (VIABAHN™ VBX Stents, Gore) due to heavy calcification and potential risk of rupture.

Fig. 2: Digital subtraction angiography on the left showed total occlusion of the left common iliac and severe osteal stenosis on the right side, the image on the left side showed sub intimal pathway of the wire on the left side and in ability to re-enter the lumen.

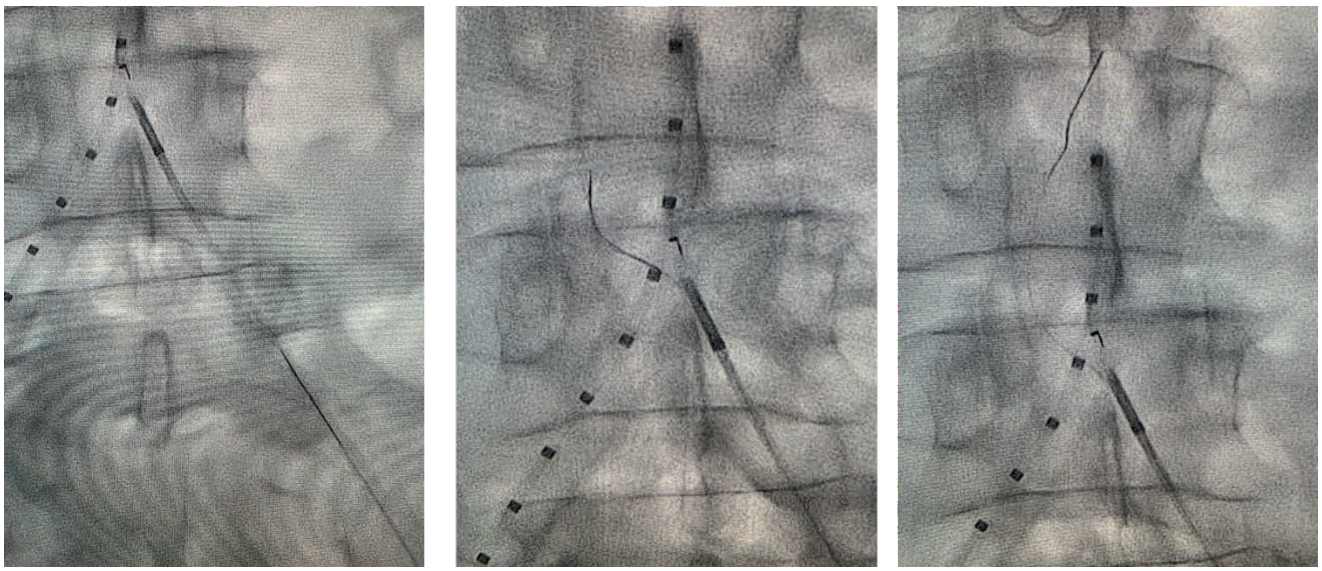

Fig. 3: Angiographic images showing usage of OUTBACK™ Elite Re-entry Catheter, localizing the T and L mark, firing of the needle, and passing the wire into the true lumen.

Fig 4: Angiographic images of the balloon pre dilatation followed by kissing iliac stenting, post revascularization images showed widely patent iliac arteries bilaterally with no residual stenosis or perforation.

RESULTS & DISCUSSION:

The patient was discharged the next morning and placed on dual antiplatelet therapy. He had a follow up after 2 weeks back in our clinic and his walking distance increased significantly.

In complex cases of vascular occlusions with heavy calcification, the subintimal passage of the wire and difficult re-entry into true lumen is frequent in many cases, most often this step of the procedure usually consumes most of the procedure time, effort, and radiation exposure. Trying to re-enter the lumen with conventional ways might be possible, however it usually takes longer time and effort with large amount of contrast media consumption. Using re-entry devices in this case will shorten the procedure time, protect operators and patients from unnecessary radiation exposure and increase the procedure success. It's important the endovascular specialist should readily consider using re-entry devices, ensuring their availability for any complex revascularization procedure.