Percutaneous Juxtarenal Aorto-iliac Thromboendarterectomy

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Objective:

This case describes a percutaneous thrombo-endarterectomy using the Inari CloTriever® system to treat a chronic juxta-renal aorto-iliac occlusion in a 55-year-old male with critical limb ischemia and a single kidney

Methods:

Under general anaesthesia, bilateral ultrasound guided access to common femoral arteries was obtained, Intraluminal wire crossing of the right iliac system into the suprarenal aorta was achieved . Intravascular ultrasound demonstrated patent inflow and outflow levels as well as confirming a diameter of 8mm in the occluded right common iliac artery, 18mm in the aorta and no significant eccentric calcific plaque. The 13Fr Clotriever sheath was placed in the right groin with the funnel deployed in the distal EIA . After 5 passes IVUS and angiography revealed no evidence of complication, no dissection and a wide lumen. Pulsatile flow was observed through the sheath. Balloon angioplasty was not performed. A week later the left side was treated successfully with a pre-emptive groin cutdown for access. The left CIA only required 3 passes of the device to achieve patency since it measured only 6 mm which was also confirmed on CTA pre-operatively. EBL was less than 100mL and operative time was 126 minutes. Balloon angioplasty was not performed.

Results:

The patient was found to have bilateral femoral, popliteal, dorsalis pedis and posterior tibialis pulses and was discharged three days later on dual antiplatelets (DAPT) with daily 100mg aspirin and 75mg clopidogrel. Post-operative CTA demonstrated a patent aorta with residual stenosis of <50%, bilateral patent iliac arteries measuring 8mm on right and 6 mm on left.. On follow-up duplex at 4 weeks there were ABIs of 1, moderate residual stenosis on left CIA, occluded false aneurysm on right, fully healed wounds and no claudication symptoms.

Conclusion:

Percutaneous aortoiliac thrombo-endarterectomy for chronic aorto-iliac occlusion with Inari CloTriever® system was fast, safe, and effective. Avoiding open surgery and extensive endovascular reconstruction minimises surgical risks and operative times and restores normal anatomy. Further studies are needed to validate its utility and expand its application in similar cases.

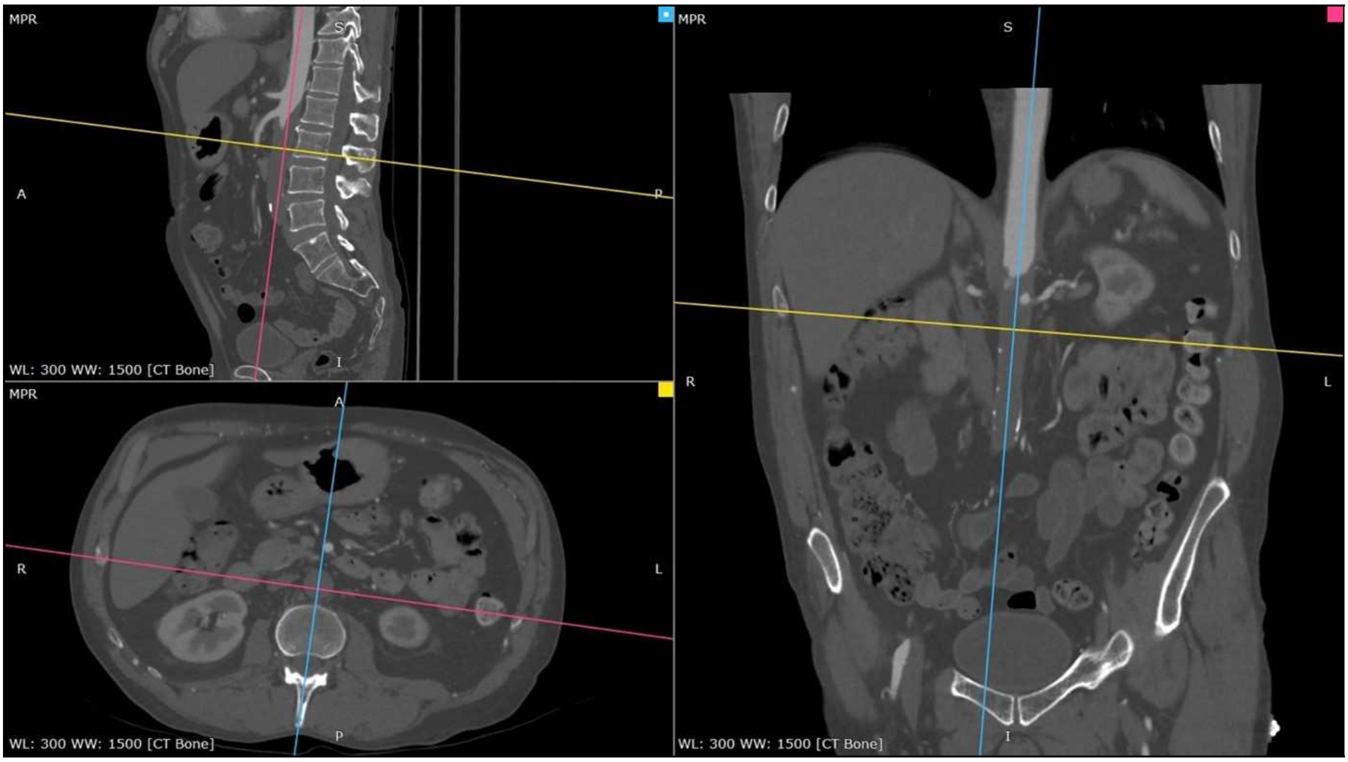

Fig 1 CT multi-planar reconstruction of the aorta of the patient before intervention demonstrating the aortic occlusion, occluded left renal artery origin and atrophic left kidney.

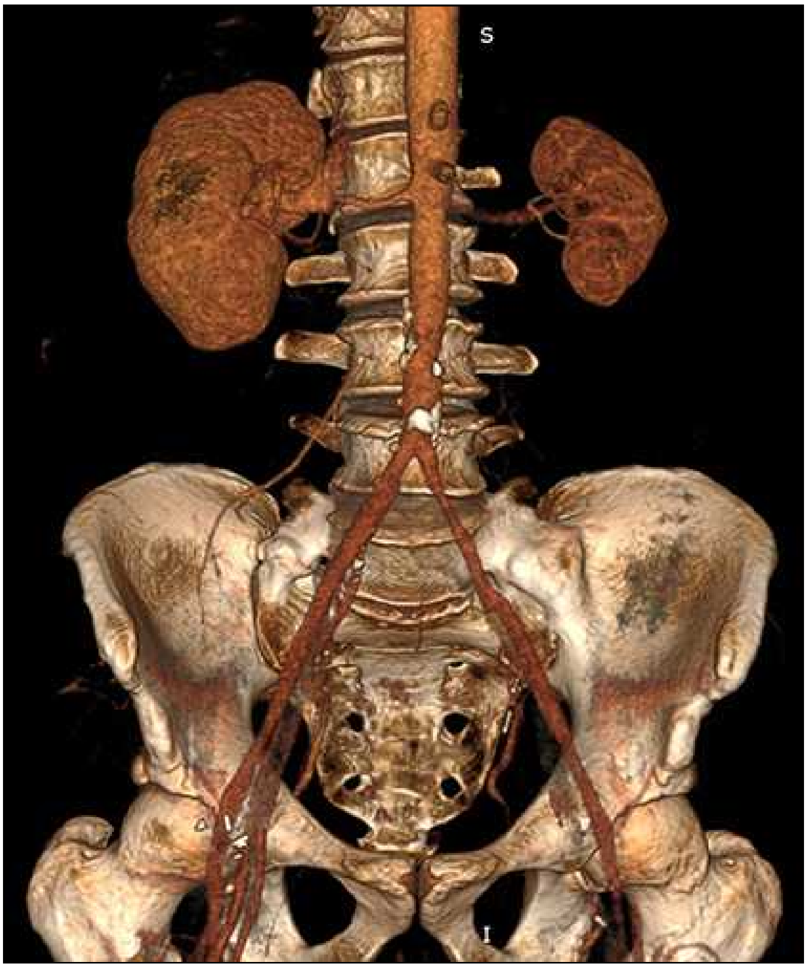

Fig 2 3D reconstruction of the aorta and iliac systems following bilateral intervention with the

Inari CloTriever® system.