Kamalnayan Bajaj Hospital
(NABH ACCREDITED HOSPITAL)

CARDIOLOGY CHRONICLES

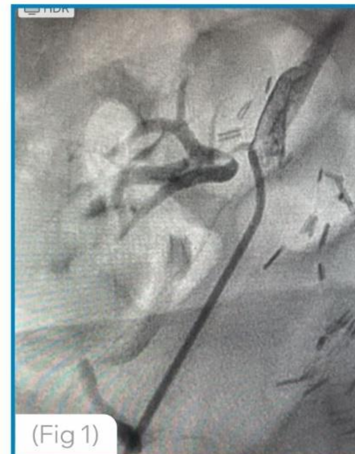
STENTING OF THE RENAL ARTERY OSTIUM OF THE TRANSPLANTED KIDNEY

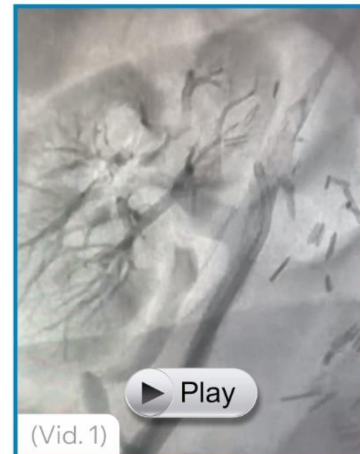
January 2024 | ISSUE 1

A 38Y M had undergone kidney transplant 4 months ago. He presented with headache and vomiting. BP was found to be 200/120mm which couldn't be controlled with 5 drugs. His serum Creatinine had jumped from 0.8 to 1.3 mg%. Abdominal duplex ultrasound revealed presence of severe renal artery stenosis (RAS) of the transplanted kidney that was transplanted in the right iliac fossa. Renal artery was anastomosed end to side with the external iliac artery.

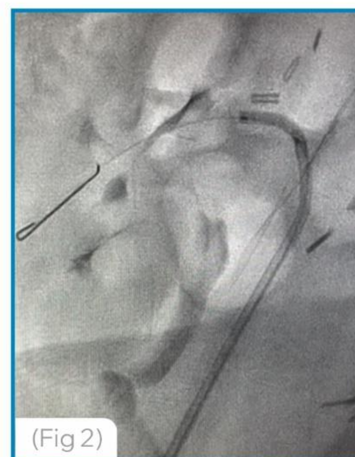
His CT angiography was performed that revealed a critical 90% ostial stenosis of the renal artery supplying the transplanted kidney and it was confirmed on catheter angiogram (Fig 1, vid. 1).

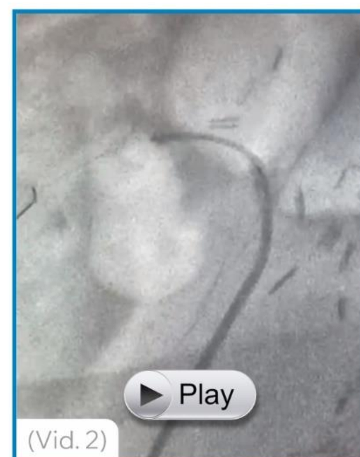
Percutaneous revascularization was planned. Renal artery ostium was engaged with IMA guide catheter and the lesion was crossed with 0.014" run- through floppy coronary guide wire. The lesion was dilated with 3.5 mm X 12 mm non-compliant balloon (Fig 2)followed by stenting with a 3.5 mm X 18 DES (video 2) resulting in excellent final angiographic result. (Fig 3, video 3) There was a remarkable improvement in patient's BP over next one week and presently he is on a single drug (5 mg of Amlodipine) with well controlled BP. Serum Creatinine came down to 1.0 mg%.


(Fig 1)

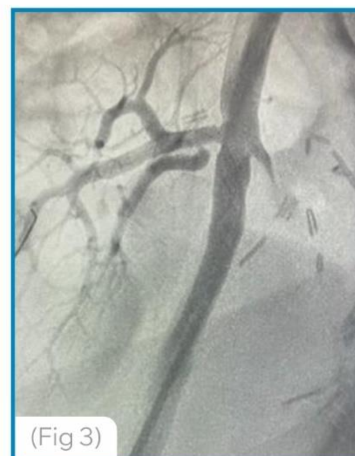


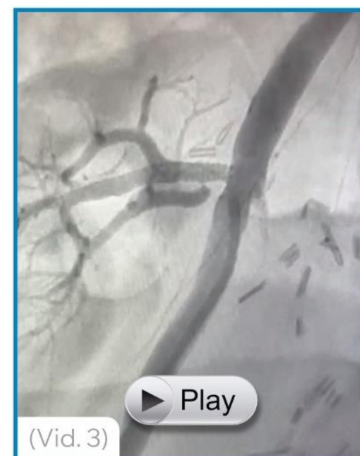
(Vid. 1)


(Fig 2)



(Vid. 2)


(Fig 3)



(Vid. 3)

Take Home Points -

- RAS of transplanted kidney is rare & related to technical issues during surgery .
- Hypertension and worsening renal function are the usual manifestations .
- It is important to understand the anatomical details of surgery from the surgeon before PCI
- Pre-PCI CT angiogram is useful to understand the anatomy.
- Minimal diluted contrast should be used as it is a precious single kidney.
- Choice of guide catheter depends on the angle of anastomosis. RJ, IMA or hockey stick catheter usually work.
- The ostial stenosis in such cases may be difficult to dilate in presence of suture material and hence cutting balloon may come handy.
- It is better to leave a strut or two of the stent in the external iliac artery rather than cut it too close to nail the ostium and ultimately miss it.
- BMS and DES work equally well in RAS.
- 20-20 deg LAO-caudal opens up the right iliac fossa well & delineates the anastomotic site. However fine tuning the angle may be necessary.

CARDIOLOGISTS

DR. AJIT BHAGWAT | DR. SACHIN MUKHEDKAR | DR. RANJEET PALKAR | DR. MAHENDRASINGH PARIHAR

Address : Gut no 43, Beed Bypass Road, Satara Parisar, Chh. Sambhajinagar. **Tel.** +91 240-6632111