



## TRANSCATHETER CREATION OF REVERSE POTTS SHUNT IN SEVERE IDIOPATHIC PULMONARY HYPERTENSION WITH SUPRASYSTEMIC PA PRESSURES

Prashant Bobhate<sup>1</sup>, Younes Boudjemline<sup>2</sup>, Santosh Wadile<sup>3</sup>

<sup>1</sup> Kokilaben Dhirubhai Ambani Hospital and Medical Research Institute, Mumbai, India.; Kokilaben Dhirubhai Ambani Hospital; Children Heart Centre, <sup>2</sup> Hôpital Necker; Interventional; Child Cardiology, <sup>3</sup> Kokilaben Dhirubhai Ambani Hospital; Children Heart Centre

Correspondence: Prashant Bobhate, prashantbobhate@gmail.com

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### **History and physical examination:**

45 yrs old, female, diagnosed with pulmonary hypertension 12-13 years back (on evaluation for easy fatigue and Dyspnea on exertion- WHO II). She was started on Tab Sildenafil and had improvement on functional class. But subsequently she had gradual deterioration since last 2-3 months (WHO-III) with intermittent pedal edema.

On examination: Weight: 62kg, SpO<sub>2</sub>: 94% (both UL & LL), BP: 145/86mmHg, Elevated JVP, Parasternal heave +, Palpable S<sub>2</sub>, Loud, single S<sub>2</sub>, High pitched PSM at LLSB grade III/VI.

### **Imaging:**

ECHO: Small ostium secundum atrial septal defect with right to left shunt,

Dilated Right atrium and right ventricle.

Moderate to severe tricuspid regurgitation.

Estimated right ventricular systolic pressure of 140 mmHg.

Moderate right ventricular systolic dysfunction.

Normal left ventricular systolic function.

IVC is not dilated and collapsing well with respiration

### **Indication for intervention:**

Severe Idiopathic PAH with supra systemic PA pressure with Moderate RV dysfunction and deterioration in functional class.

### **Intervention:**

Trans-catheter reverse Potts shunt (TPS) creation.

TPS Shunt was created using 10 mm X 37 mm Bentley (BeGraft) covered stent and it was further post-dilated using 12mm X 40 mm Armada balloon.



Hemodynamics: Basal HR- 90/min Hb = 16.8g/dl, Cr: 0.8mg/dl

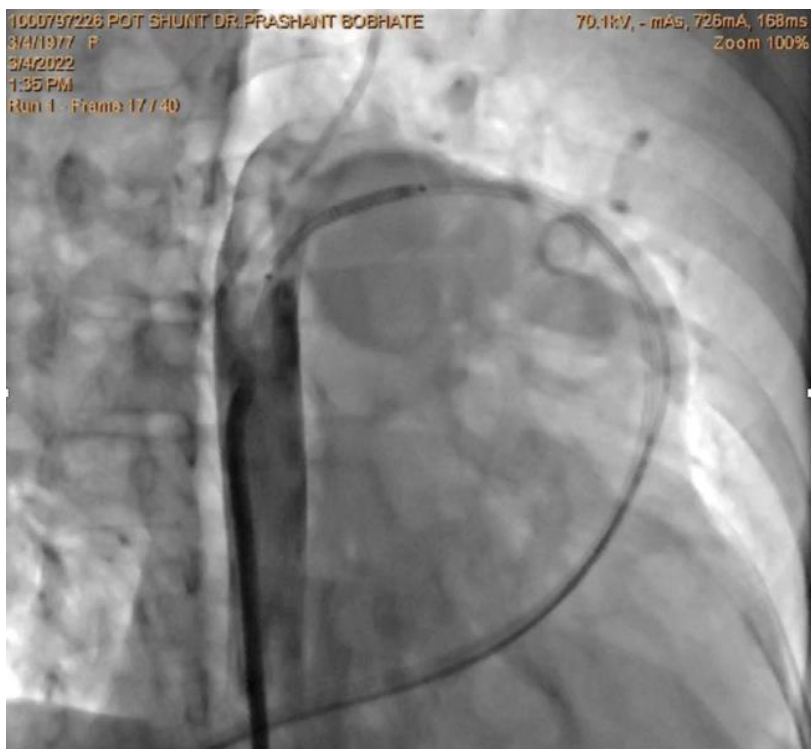
| Site | Basal Pressure | Post-stenting | Post-balloon dilatation |
|------|----------------|---------------|-------------------------|
| DAO  | 124/68/85      | 136/50/84     | 140/53/84               |
| LPA  | 160/50/88      | 155/46/85     | 148/47/80               |

**Final Oxymetry:**

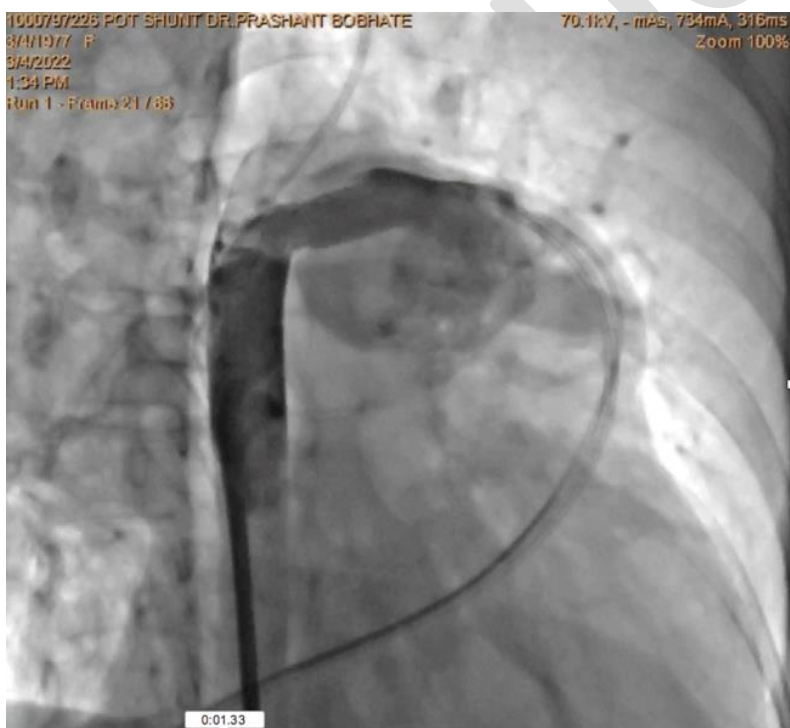
| Post balloon dilatation | Pressures | So2 | Po2 | Pco2 |
|-------------------------|-----------|-----|-----|------|
| DAO                     | 140/53/84 | 79  | 52  | 36   |
| LPA                     | 148/47/80 | 88  | 61  | 34   |

**Learning points of the procedure:**

Transcatheter reverse Potts shunt can be done in patients with Pulmonary hypertension with suprasystemic PA pressures. It can be done with even with high risk patients and requires multidisciplinary team support.



**Image 1:** Descending aortogram done in lateral view showing stent placement between left pulmonary artery and descending aorta.



**Image 2:** Final descending aortogram done in lateral view showing flows across the stent.