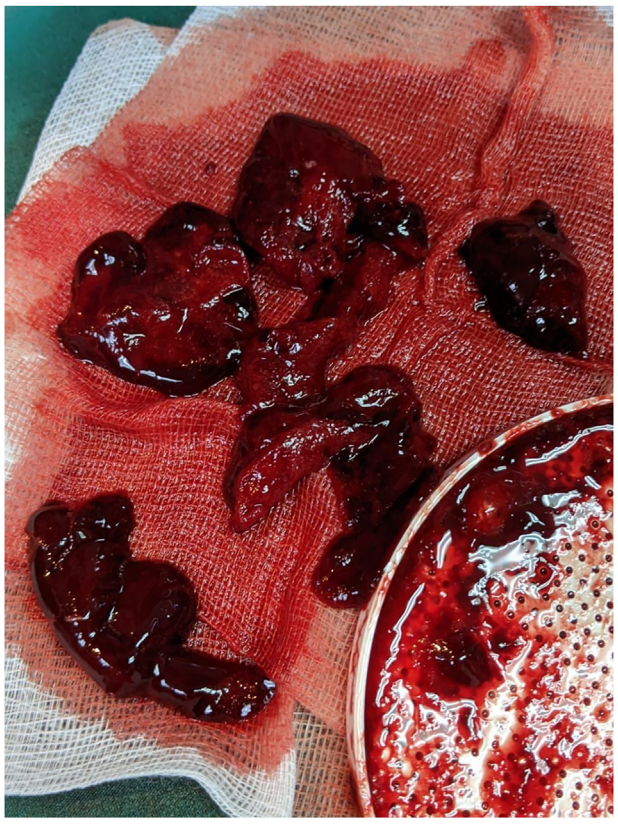


Conclusions. The next day, patient was extubated with good oxygen saturation. On further laboratory testing, his B-HCG was elevated, and he was diagnosed as non-seminoma germ cell tumor by the oncology team, and was started on chemotherapy. He was discharged after 2 weeks post intervention, and was seen at our clinic a month after in which he was given direct oral anticoagulant for at least 3 months. Repeated echocardiography showed normal cardiac chambers with no features of pulmonary hypertension.

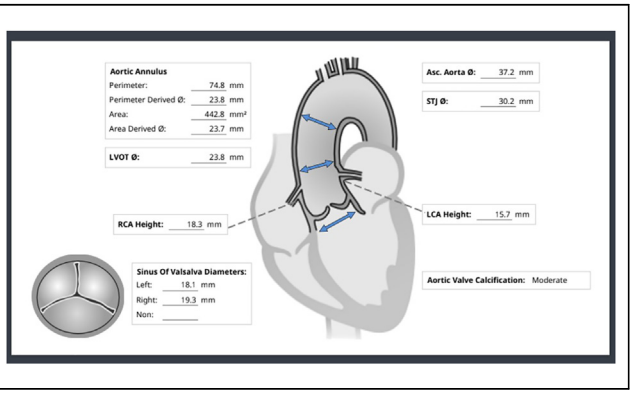
This case showed how acute pulmonary embolism may mimic acute coronary syndrome especially from the ECG and cardiac enzymes parameters. Percutaneous intervention helped to save the patient.

Relevant Test Results Prior to Catheterization. Hemoglobin 12.1, creatinine 0.68

Echo concentric LVH, LV peak gradient 61 mm of Hg and mean gradient 36mm of Hg

3mension analysis of the aortic valve was done which showed an area-derived and a perimeter-derived aortic valve annulus of 23.7 mm and 23.8 mm respectively. The Ascending aorta measured 37.2 mm and coronary heights were adequate.

peripheral common femoral access sites bilaterally measured more than 6 mm



STRUCTURAL HEART DISEASE - VALVULAR INTERVENTION: AORTIC (TCTAP C-197 TO TCTAP C-203)

TCTAP C-197

Difficult Transcatheter Aortic Valve Implantation in a Bicuspid Aortic Stenosis With Eccentric Calcification and a Horizontal Ascending Aorta

Debdatta Bhattacharyya,[1] Manik Chopra,[1] Ayan Kar,[1] Snehil Goswami[1]
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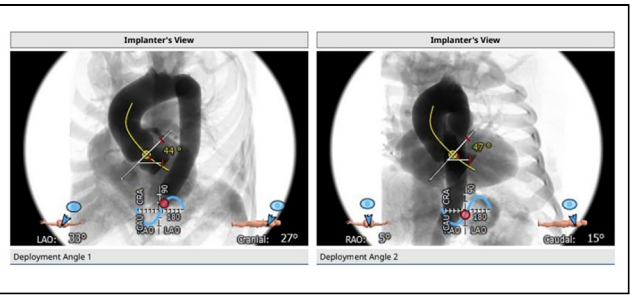
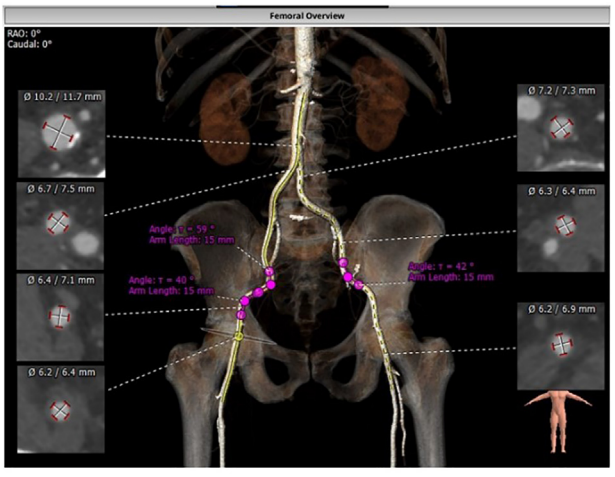
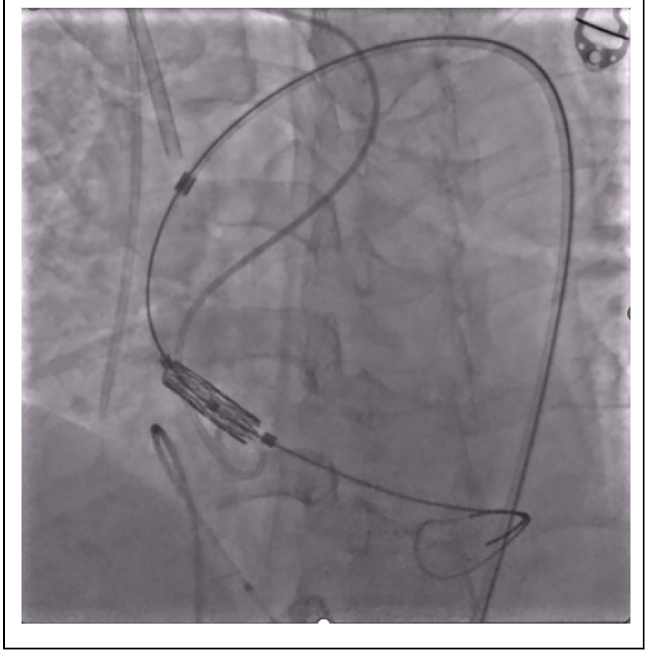


CLINICAL INFORMATION

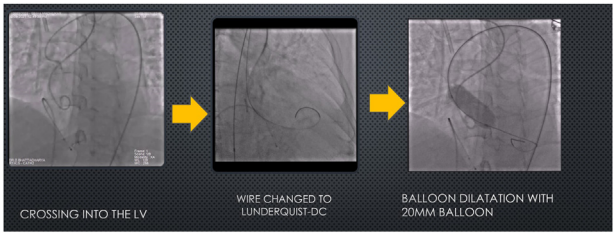
Patient Initials or Identifier Number. MS

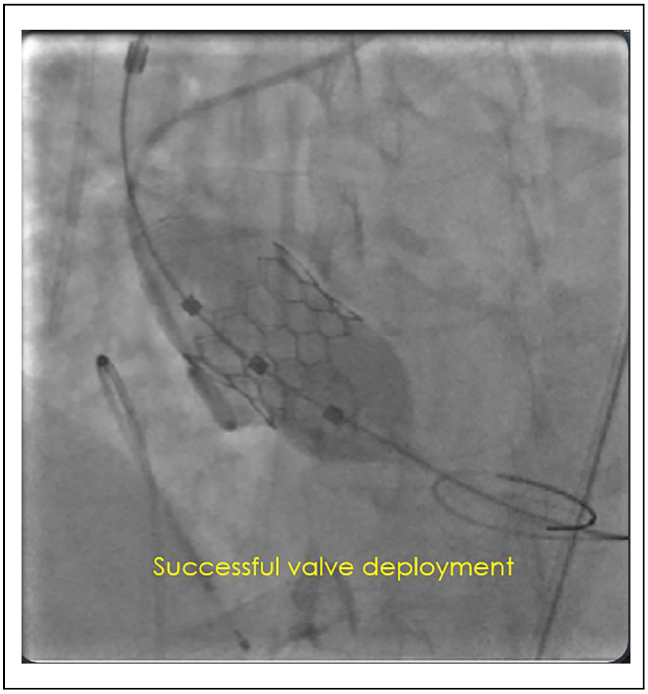
Relevant Clinical History and Physical Exam. 73-year diabetic and hypertensive with symptomatic severe aortic stenosis in a case of bicuspid aortic valve attempted with an Indian self expanding TAVR valve at a different hospital, but the valve could not be negotiated across the aortic valve referred to our center for a second attempt.





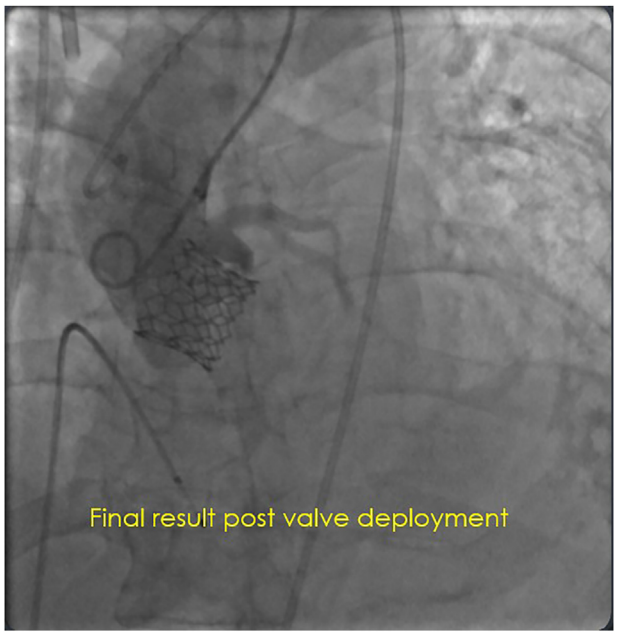
Relevant Catheterization Findings. Pre TAVI:AO: 118/65/82 mm of Hg
Pre-TAVI peak gradient was 61 mm of Hg
Post TAVI peak gradient 5mm of Hg
no significant AR at the end of procedure





INTERVENTIONAL MANAGEMENT

Procedural Step. Right common femoral access was obtained under fluoroscopic and contralateral femoral dye injection. A 14 Fr Python sheath was inserted over an Amplatz super stiff wire parked in the ascending aorta. The valve was crossed with a 6F AL1 and straight-tip Terumo guide wire. The Terumo was exchanged for a Lunderquist double curve super stiff wire. The aortic valve was predilated with a 20x 40mm Mammoth OTW balloon under rapid-pacing support. Following which a 24.5 mm Myval (balloon expandable) valve was taken up to the ascending aorta. Given the horizontal nature of the ascending aorta, it was difficult to negotiate the valve and required deep flexion of the navigator balloon catheter to achieve coaxiality and negotiate the bicuspid valve with eccentric calcium. Following this and sustained traction, the valve finally jumped across the calcific hump of the aortic valve. It was deployed successfully under rapid-pacing support@ 180bpm and the final result was excellent. Common right femoral access was secured with a double ProGlide and temporary pacer was withdrawn on table.



Conclusions. Bicuspid aortic valve with eccentric calcification always presents a challenge for transcatheter Aortic valve implantation.

It requires meticulous study of the pre-procedural CT imaging and planning for successful results.

Bicuspid valve anatomy is peculiar for eccentrically placed calcium and difficult valve deployment across the eccentrically opening diseased aortic valve.

The smaller profile of balloon expandable Myval (compared to the Indian self-expanding TAVR valve) along with the deep flexion on the navigator catheter helped in this case to negotiate the horizontal ascending aorta and eccentric calcium on the bicuspid aortic valve.

TCTAP C-198

All Roads Lead to Rome

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CLINICAL INFORMATION

Patient Initials or Identifier Number. MCH

Relevant Clinical History and Physical Exam. An 82-year-old gentleman presented with symptomatic severe aortic stenosis with recurrent dizziness and angina. He also had exertional dyspnea with new onset leg oedema (New York Heart Association Class III). His past medical history included severe COPD (FEV1 16%, FVC 22%). His blood pressure was 132/64 mmHg and a heart rate of 52 bpm. His respiratory rate was 16 with oxygen saturation of 98% on room air. His Katz index was 6, Chinese Lawton of 25/27 and 5 minutes walking test of 7.15 seconds.

Relevant Test Results Prior to Catheterization. His laboratory tests showed hemoglobin of 14 g/dL, platelet of 151 x 10-9/l, creatinine of 89 umol/L and albumin of 38 g/L. His baseline electrocardiogram showed sinus rhythm with right bundle branch block. His echocardiogram demonstrated left ventricular systolic function of 54%, the mean trans-aortic gradient of 46mmHg, and an aortic area of 0.6cm-2. There were mild aortic and mitral regurgitations only.

Relevant Catheterization Findings. He underwent coronary angiogram and showed proximal to mid left anterior descending (LAD) lesion of 70%, other coronary arteries did not show any significant stenosis. His computed tomography (CT) revealed small bilateral femoral arteries, axillary and subclavian arteries were also too small. Trans-carotid or direct aortic routes were potentially feasible. However, his CT cerebral angiogram showed incomplete Circle of Willis. His Society of Thoracic Surgeons' mortality risk score was 5.6%.

INTERVENTIONAL MANAGEMENT

Procedural Step. In view of elevated risk of cerebral ischaemia for transcarotid TAVI, and high risk of direct aortic access (poor lung function), Heart team recommended transcaval TAVI as the preferred alternative access for this patient.

Under general anaesthesia, we performed percutaneous coronary intervention to LAD first. Then, we prepared for the transcaval crossing. Left femoral access was obtained and inserted the 25mm gooseneck snare position at the top of L3. Renal length RDC-1 guiding catheter (GC) was used from right femoral vein, with Astato XS 40 300cm wire over finecross microcatheter and Navicross (90cm). However, it was unsuccessful and hence exchanged to RDC renal length with piggyback MC and navicross. Despite that, electrified wire still could not cross the intended spot.

We performed a simultaneous venogram and aortogram together and revealed a significant wider caval-aortic distance compared to the preoperative CT. As this could be due to volume depletion, intravenous fluids were given. As the IVC diameter was smaller, the guiding catheter was exchanged to IMA, together with piggyback and navicross microcathter. This was successfully performed and able to deliver the lunderquist wire over with 14Fr E sheath inserted.

The TAVI was then performed and deployed a 23mm Sapien 3 valve according to preoperative CT annulus sizing.

Transcaval closure was performed using ADO 10/8 device and Atlas 18x40mm occlusion balloon was used. Final aortogram showed mild residual shunt only.

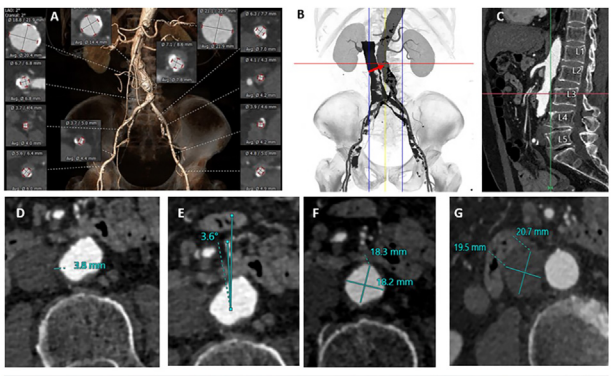

Figure 1 (A) Femoral artery anatomy (B,C) Transcaval crossing at upper one third of L3 body (D) Caval aortic distance (E) Orthogonal projection (F) Aortic diameter at level of crossing (G) IVC diameter at level of crossing