[Interventional Management]

Procedural step:
1. After ETGA, a CVC line is inserted through left internal jugular vein and a temporary pacemaker through right internal jugular vein
2. Left femoral artery picture with a 6Fr sheath inserted
3. Right femoral artery cut-down with 18Fr. sheath inserted
4. Inserted an Amplatz superstiff 260cm in to LV as guidewire (0.35” Stiff- terumo into LV via a AL1 diagnostic catheter -> change to J-tipped guidewire -> insert a pig-tail catheter into LV -> insert the Amplatz Super- stiff wire)
5. Aortic valvuloplasty with Nucleus 20 x 40mm, under rapid pacing up to 180bpm
6. Deploy Medtronic CoreValve 29mm
7. Post-dilataion with NuMed 25 x 40mm
8. The 1st CoreVavle popped out while retrieving the wire
9. No PG across the dislodged valve and the aortic branch compromised
10. TEE showed no dissection
11. Deploy a 2nd Medtronic CoreValve 29mm
12. No LV-Ao pressure gradient
13. Close RFA wound layer by layer

Case Summary:
This is a 93-year-old male, with severe aortic stenosis and underwent TAVI in Aug. 2013. After the post-deploy dilation of the first Core Valve, the proximal stent strut was deformed and the Valve was retracted while drawing the wire, as the wire passing from outer stent side through a strut into the stent. The first valve was placed right at the aortic arch and a second Core Valve was later deployed successfully. The patient’s condition improved after the procedure and there was no related complication.

TCTAP C-233
Percutaneous Transvenous Mitral Commissurotomy in 71 Years Old Woman with Mitral Stenosis
Abdullah Al Shafi Majumder
National Institute of Cardiovascular Diseases, Bangladesh

[Clinical Information]
Patient initials or identifier number:
Rabeya

[Interventional Management]
Procedural step:
A 71 year-old woman with known mitral stenosis (MS) admitted on 19.01.2013 in National Institute of Cardiovascular Disease (NICVD), Dhaka with history of palpitation and dyspnea on exertion for several years. On examination, her blood pressure was 100/70 mm Hg and her heart rate was 72 per minute, irregular. JVP is raised with absent a wave. There was a tapping apex beat, palpable P2 and a diastolic thrill over the apical area. The 1st and the pulmonary component of the 2nd heart sounds were loud, and a low-pitched, localized, mid diastolic murmur of grade 4/6 was heard over the apical area. The 1st and the pulmonary component of the 2nd heart sounds were loud, and a low-pitched, localized, mid diastolic murmur of grade 4/6 was heard over the apical area. Total leucocyte count was 10400/mm3, erythrocyte sedimentation rate 18 mm in 1st hour, hemoglobin 10.8 gm/dL, C-reactive protein negative, anti-strep- tolysin O (ASO) titer <200 IU, bleeding time 3.15 minutes, clotting time 5.45 minutes, prothrombin time was normal. In ECG heart rate was 80/min with atrial fibrillation. Chest X-ray showed straightening of the left cardiac border, widen angle of carina, double counter right border. Echocardiography revealed severe mitral stenosis due to chronic rheumatic heart disease with mitral valve area (MVA) 0.9cm2, mildly dilated left atrium (44 mm), with pulmonary artery systolic pressure (PASP) 41mm Hg. Doppler studies showed a peak mitral valve gradient (MVG) 21mm of Hg. Trivial MR, moderate tricuspid regurgitation, normal left ventricular (LV) size with ejection fraction (EF) 63%, no left atrium (LA) thrombus, and mitral valve Willkin’s score was 7. Coronary angiogram (CAG) was done before PTMC and was found normal epicardial coronary vessel. PTMC was done successfully through right femoral vein approach. Left atrial pressure fall down from 38/18/25 mm of Hg (systolic/dia- stolic/mean) to 22/10/15 mm of Hg (systolic/diastolic/mean). Before PTMC aortic pressure was 100/80/90 mm of Hg (systolic/diastolic/mean) after 110/85/95 mm of Hg (systolic/diastolic/mean). Whole procedure and the postoperative period were uneventful. Patient was discharged on 4th postoperative day and followed up after 5 months. She had no palpitation and shortness of breath. Follow up echocardiography showed MVA-1.8-2.0 cm2 with trivial MR. MVG 6.07mm of Hg PASP 36 mm of Hg. No vegetation or thrombus.LV systolic function was good.
Case Summary:
Rheumatic mitral stenosis (MS) is a progressive disease and without treatment it carries significant mortality and morbidity. The mitral valve (MV) is the most frequently affected valve in chronic rheumatic heart disease. It is solely affected in 25% and about 40% have combined mitral stenosis and mitral regurgitation (MR), multivalve involvement is seen in 38% of MS patient. All symptomatic patients should undergo intervention to improve cardiac function as well as to prevent complication. Inoue K and colleagues were the first to perform percutaneous transvenous mitral commissurotomy (PTMC) in 1982. Since then PTMC became a standard procedure to help patients with MS favorable for it and tends to delay the need for MV replacement for about ten years or more. PTMC is of maximum benefits in patient with pliable mitral valve, fused and restricted commissures without calcification or fibrosis assessed by using Wilkins criteria. In general, patients with a Wilkins score of <9 and less than moderate mitral regurgitation has the best outcomes, although many patients have benefited from PTMC despite higher valve scores. Although reports regarding safety and efficacy of PTMC in older children and young adult are available but there are limited data about PTMC in elderly people. We have done PTMC successfully in a 71 years old female which is the first reported case in Bangladesh.

TCTAP C-234
Early Core Valve Stenosis Due to Extensive Calcification in a Patient with Dialysis-dependent Chronic Renal Failure
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Waikato Hospital, New Zealand

[Clinical Information]
Patient initials or identifier number: BR
Relevant clinical history and physical exam: 65 Years old man with severe symptomatic aortic stenosis was referred for consideration of transcatheter aortic valve implant (TAVI). He was on haemodialysis for end stage renal failure secondary to obstructive uropathy and chronic urosepsis. His other co-morbidities included ischaemic heart disease with previous angioplasty to LAD, secondary hyperparathyroidism, and previous pan colectomy for steroid-dependent ulcerative colitis. Cardiovascular examination revealed normal jugular venous pulsation and a slow rising carotid pulse. Heart sounds were dual with a loud ejection systolic murmur consistent with aortic stenosis. There was no clinical evidence of overt left or right heart failure.

Relevant test results prior to catheterization:
Routine complete blood count was normal. His ECG showed normal sinus rhythm with no evidence of heart block. Transthoracic echocardiography revealed severe aortic stenosis - aortic valve area 0.7cm² mean gradient of 75mmHg and peak gradient of 110mmHg. Left ventricular systolic function was normal.

Relevant catheterization findings:
Coronary angiography revealed mild in-stent restenosis of the LAD stent with no flow-limiting disease elsewhere. Right heart catheterisation revealed normal pulmonary pressures.

[Interventional Management]
Procedural step: Patient had bridging balloon aortic valvuloplasty two months prior to TAVI.

TAVI procedure steps:
1. A balloon tipped temporary pacing wire was inserted through the right internal jugular vein into the right ventricle.
2. A 6 French sheath was inserted in the left femoral artery. Through this sheath a marker pigtail catheter was advanced and placed in the aortic root.
3. Under direct vision a 10 French sheath was inserted in the right femoral artery and a Prostar was implanted. Following this the sheath was upsized to an 18 French sheath.
4. An aortogram was performed to assess the annular plane, following which the aortic valve was crossed. Simultaneous pressures were then obtained.
5. A 22 x 40mm Numed nucleus balloon was used to perform one inflation under rapid RV pacing at 180bpm with excellent stability.
6. A 29mm Medtronic CoreValve in the AccuTrak system was deployed across the aortic annulus. Fluoroscopic views showed excellent position.
7. The aortic valve was crossed again and simultaneous pressure gradients were obtained. Aortic peak gradient pre-TAVI was 48mmHg and dropped to 12mmHg post TAVI; the pre-TAVI mean gradient was 40mmHg and dropped to 5mmHg post procedure.
8. The right femoral artery access was closed with the Prostar device. A contralateral injection was performed to ensure there was no extravasation of blood.