A Case of Ectopic Core Valve Implantation

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Queen Elizabeth Hospital, Hong Kong, China

[Clinical Information]
Patient initials or identifier number: Y1234

Relevant clinical history and physical exam:
This is a 72 years old lady with HT, DM, Hyperlipidemia and IHD. She had CABG to LAD, OM and RCA 10 years ago. She also has degenerative valvular AS and present with dizziness and occasional angina. There ws progressive deterioration in her symptoms. Physical examination revealed a slow rising and small pulse volume pulse. There was systolic murmur 4/6 in the aortic area radiating up to the neck and the apical impulse was of pressure overload type.

Relevant test results prior to catheterization:
Echo confirmed severe AS (AVA = 0.69 cm square) with LVH and EF of 50%, moderate MR and PHT. Coronary angiogram showed blocked graft to LAD; patent SCG to OM and mild diseases of RCA graft. Her Euroscore II for open heart surgery was 30%. So we performed PCI to the LMN and LAD lesions first with drug eluted stents, then for staged TAVI procedure of Corevalve 26 mm (Medtronic Ltd)

Relevant catheterization findings:
The catheterization showed severe gradient across the aortic valve (mean gradient >50 mmHg)

[Interventional Management]
Procedural step:
1) General Anaesthesia
2) TEE guide
3) 18 F RFA
4) Temporary Pacer
5) Nucleus Balloon predilatation
6) Implantation of 26 mm Corevalve
7) The CoreValve dived down to the LV during positioning and we needed to pull the Valve upwards
8) Sudden embolization of the Valve UP to the Aortic Arch
9) Need to retrieve the CoreValve carefully into the sheath in the Abdominal Aorta
10) Valve was STUCKED in the descending thoraco-abdominal aorta and cannot be retrieved
11) The Corevalve was deployed in the descending aorta successfully; with maintaining the Stiff Guidewire position
12) Another Valve was then deployed at the Aortic Root
13) Aortogram; trivial paravalvular leak the Abdominal Corevalve function well with no gradient
14) Review of CT Scan showed heavily calcified descending aorta.
Case Summary:
This is a 72 years old female with HT, DM, Hyperlipidemia and IHD. She had CABG to LAD, OM and RCA 10 years ago. She also has degenerative valvular AS and present with dizziness and occasional angina. Echo confirmed severe AS (AVA = 0.69 cm²) with LVH and EF of 50%, moderate MR and PHT. Coronary angiogram showed blocked graft to LAD; patent SCG to OM and mild diseases of RCA graft. Her Euroscore II for open heart surgery was 30%. So we performed PCI to the LMN and LAD lesions first, then for staged TAVI procedure of Corevalve 26 mm (Medtronic Ltd). However the CoreValve dived down to the LV during positioning and we needed to pull the Valve upwards that resulted in the sudden embolization of the Valve to the Aortic Arch. The CoreValve was deployed in the descending thoraco-abdominal aorta and posed management difficulties. The Corevalve was deployed in the descending aorta successfully; another Valve was then deployed at aortic root. We used balloon to make Corevalve attached tightly to aortical wall. We deployed second Corevalve successfully.

Could we have another management in this situation?

TCTAP C-231
Core Valve Deformity During Retrieval
Chih-Kuo Lee, Hsien-Li Kao
National Taiwan University Hospital, Taiwan

[Clinical Information]
Patient initials or identifier number:
Taiwan NTUH 5952181
86 y/o man
Underlying Diseases: Severe AS, CHF, NYHA Fc:III, Chronic atrial fibrillation, Hypertension
2009 Exertional dyspnea & angina
Severe AS was diagnosed
2012/1 CHF improved after balloon valvuloplasty
2013/1 Heart failure symptom recurred
2013/4 Refer to NTUH for TAVI evaluation
Echocardiography: (Af rhythm), estimated AVA: 1.3 ~ 1.5 cm²; PG: 42.3 mmHg
moderate AR; LVEF: 62.9%
CAG: patent coronary arteries
Cross AV PG > 60 mmHg

[Interventional Management]
Procedural step:
1. After ETGA, a CVC line inserted through right femoral vein and a temporary pacemaker through right internal jugular vein.
2. Left femoral artery puncture with 6 Fr sheath inserted
3. Right femoral artery cut-down with 18Fr. sheath inserted
4. Inserted Amplatz superstiff 260 into LV as guidewire (AL1–>0.35 ST GW–> J-tipped 260 GW–> 6Fr. pigtail–> Supersistiff)
5. Advanced Nucleus 20mm*4cm for balloon aortic valvuloplasty after rapid pacing upto 180bpm
6. Advanced Corevalve DLS across aortic valve then deployed Corevalve 31 mm but failed and Corevalve was deployed at abdominal aorta.
7. Kissing balloon with NUMED 20mm x 4cm and Wanda 8 x 40mm for abdominal aortic corevalve.
8. Advanced Corevalve DLS across aortic valve then deployed Corevalve 31mm successfully
9. Deployed Complete SE ILIAC 10 x 80 mm to bilateral common iliac artery to abdominal corevalve.
10. Finally RFA wound was closed layer by layer
11. There is 1 mmHg pressure between Ao and LV

Case Summary:
1. We found the location of CoreVale wasn’t good enough during deployment.
2. There was strong resistance when we decided to retrieve the Corevalve.
3. Then deformity of sheath and Corevalve were too severe to be retrieved.
4. We used balloon to make Corevalve attached tightly to aortical wall.
5. We deployed second Corevalve successfully.

Could we have another management in this situation?

TCTAP C-232
The Price of Premature Withdrawal (Wire)
Che-Wei Liao, Hsien-Li Kao
National Taiwan University, Cardiovascular Center, Taiwan

[Clinical Information]
Patient initials or identifier number:
Mr. Jien-Hsie
93-year-old male
Chronic kidney disease, hypertension, benign prostate hypertrophy congestive heart failure NYHA Fc: III junctional bradycardia
2008 ~ dyspnea on exertion; aortic stenosis diagnosed in other hospital
2013 ~ Deteriorated exercise capacity, with shortness of breath

[Interventional Management]
Procedural step:
1. After ETGA, a CVC line inserted through right femoral vein and a temporary pacemaker through right internal jugular vein.
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