Procedural step. Coronary angiography showed a calcified 90% stenotic lesion in the mid LAD and a 90% stenosis in the LCX, on the other hand proximal LAD was angiographically intact. We performed intravascular ultrasonography (IVUS) to assess intermediate lesions and iFR for a hemodynamic assessment. A pressure sensor was positioned at the site distal to the stenosis in LAD and the iFR was 0.70 suggesting myocardial ischemia. Percutaneous coronary intervention (PCI) was performed for the fixed stenosis using drug-eluting stent. After successful PCI, subsequent iFR was 0.85 at just distal portion of the DES. The additional intravascular ultrasound (IVUS) showed a minimal lumen cross sectional area at the proximal LAD was 3.67mm², a vascular area was 10.01mm², a cross-sectional plaque burden was 63%. These modalities suggested additional PCI for the proximal moderate stenosis in the LAD(#6), though the proximal lesion was not significant by quantitative coronary angiography (QCA). After successful PCI, subsequent iFR was 0.97 at just distal portion of the prior DES. After the procedure, his symptoms disappeared. He was discharged the following day. Staged PCI for LCX was performed several days later.

Case Summary. Current angiographic evaluation frequently overestimates or underestimates the functional severity of coronary lesions and can lead to unnecessary intervention. Physiological assessment using iFR and FFR can be useful not only for the indication of intervention but also for decision-making at the end of PCI procedures.

[INTERVENTIONAL MANAGEMENT]

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STRUCTURAL HEART DISEASE, OTHER (TCTAP C-216 TO TCTAP C-218)

TCTAP C-216
Transcatheter Closure of Left Ventricular Outflow Tract (LVOT) Aneurysm in a Marfan Syndrome (MFS) Patient
I-Seok Kang,¹ Young Hwa Kong,¹ Kiuck Sung¹
¹Samsung Medical Center, Korea (Republic of)

[CLINICAL INFORMATION]

Patient initials or identifier number. KYM

Relevant clinical history and physical exam. A 17 years old boy visited pediatric cardiology clinic for nonsurgical treatment of pseudo aneurysm at LVOT. He underwent 7 times of aorta surgery because of thoracoabdominal aortic aneurysm related to MFS. The fifth was a surgery for LVOT rupture secondary to graft infection (Bentall operation, ascending aorta replacement with homograft, right ventricle posterior wall reconstruction). After the surgery he developed a LVOT aneurysm which progressed in size during follow up.

Relevant test results prior to catheterization. The last computed tomography (CT) showed a large aneurysm at LVOT. He also had a focal dilation at proximal portion of left subclavian artery, superior mesenteric artery and both renal arteries. An echocardiogram also showed a pouch communicating with the left ventricle (LV) below the graft AV. The graft AV function was good with mild regurgitation and the repaired mitral valve (MV) function was also good with mild steno-insufficiency. The LV contractility was good.
Relevant catheterization findings. The procedure was done under general anesthesia with trans esophageal echocardiography guidance (TEE). An angiogram at the LV showed a large aneurysm communicating with the LV.

[Interventional Management]
Procedural step. After angiogram at LV, the aneurysm was selected with a 5 french end hole catheter and a 0.035 "J-tip Terumo O wire (Terumo Medical, NJ, USA). A 4 french gliding catheter was inserted over the Terumo wire and the wire was replaced with a 0.035" Amplatzer stiff wire (Malborough, MA, USA). A 8 french XB guiding catheter (Codman & Shurtleff, Raynham, MA, USA) was inserted over the stiff wire. A 16 mm Amplatzer Vascular Plug II (AVP II, Saint Jude Medical, St. Paul, Minnesota, USA) was inserted through the guiding catheter and adjusted to have a shape of distal two lobes inside the aneurysm and the proximal lobe at LVOT. After confirmation of the AV & MV function by TEE and LV angiogram, the AVP II was detached successfully.
Case Summary. Aneurysm at LVOT is a rare complication after Bentall operation and the aneurysm may increase in size. In that situation transcatheter closure of the LVOT aneurysm can be done safely, especially with a AVP II.

TCTAP C-217
Bilateral Pulmonary Arterio Venus Fistula Managed by Vascular Plugs and Coil
Manotosh Panja1
1BelleVue Clinic, India

[CLINICAL INFORMATION]
Patient initials or identifier number. Mr 19
Relevant clinical history and physical exam. 19 year old man presented with history of worsening cyanosis since birth and frequent episodes of haemoptysis.
Systemic examination revealed central cyanosis and clubbing. Cardiovascular examination was essentially normal.
Electrocardiography and 2D echo cardiography was within normal limits.
Resting O2 saturation was 84%.