Loss of Obtuse Marginal Branch in Staged PCI Resulted in Cardiac Rupture

Hanjun Zhao, Hongbing Yan
Fuwai Hospital, China

[Clinical Information]
Patient initials or identifier number: F.X.H
Relevant clinical history and physical exam:
Male, 51yr
Chest pain for 2 mo
Inferior wall MI and thrombolysis 2 mo ago
Risk factors: hypertension

Relevant catheterization findings:
UCG: LVEDd 49mm, LVEF 55%, thinned inferior wall with abnormal motion

Relevant test results prior to catheterization:
Risk factors: hypertension
Inferior wall MI and thrombolysis 2 mo ago
Chest pain for 2 mo

Procedural step:
1st PCI: RCA, DES: 3.0/36, 2.75/33, 2.5/36 implanted
2nd PCI: LCX, 6F JL3.5, BMW, Pilot50, Ryujin 2.5/15; Difficulty for distal positioning of the wire
OM dissected after pre-dilation; Blood flow impaired by coronary dissection. Fielder XT rewire, low pressure dilation by Ryujin 1.5/20; Repeated low pressure dilation tended to restore blood flow; Paroxysmal supression with v4-6 ST-T change, Isosorbide dinitrate IV infusion and symptoms relieved; 4 hour UCG: no pericardial effusion; 11 hours after PCI: sweating, BP↓ HR 90bp; UCG: pericardial effusion 8mm, pericardial drainage: 250ml hemorrhagic effusion; Diagnostic CAG: no puncture of LCX; BP: 100-138/60-78mmHg, HR 84bpm; CCU: 20 hours after PCI: chest pain & worsened by deep breath; 20 hour after PCI: BP↓ HR 90-164bpm; pericardial drainage: 250ml hemorrhagic effusion; UCG: pericardial tamponade; Blood pressure could not be maintained
Recurrent catheterization findings:
Tortuous LCX with severe stenosis; m-RCA 100% occlusion

[Interventional Management]
Case Summary:
A case of RCA 100% occlusion & LCX severe stenosis was subjected to staged PCI. 1st PCI of RCA was successful; 1 week later LCX was subjected for 2nd PCI. However, OM dissected and blood flow impaired. the patient died from cardiac puncture due to AMI

TCTAP C-125
ASD Device Embolization – What a Nightmare!
Bharat Dalvi
Glenmark Cardiac Centre, India

[Clinical Information]
Patient initials or identifier number: PR
Relevant clinical history and physical exam:
37 years old lady who presented with shortness of breath, palpitations and easy fatigability. Her vital parameters were normal and the clinical examination was suggestive of pretricuspid shunt.

Relevant test results prior to catheterization:
Her x-ray chest and ECG supported the clinical suspicion. Her TTE confirmed the presence of a large secundum ASD with a left to right shunt. Her TEE showed the ASD to be measuring 27-28 mm with adequate surrounding rims for a device closure.

Relevant catheterization findings:
She had

[Interventional Management]
Procedural step:
Thus, she was taken up for transcatheter closure under general anesthesia with fluoroscopic and TEE guidance. Her ASD was closed using a 34 mm Amplatzer septal occlude (ASO) with the help of balloon assisted technique. The procedure was uneventful and the device appeared to have captured all the rims adequately. At the time of extubation, the device embolized into the right ventricle (RV). The device was displaced from the RV by passing a catheter across the tricuspid valve (TV) to keep it open and then ventricular premature contractions were deliberately induced to cause AV dissociation. The combination of AV dissociation with partly open TV helped to dislodge the device into the right atrium from where it was successfully recaptured into a 16F sheath by holding both the disks simultaneously; one with a biopentome through the right jugular vein and the other with Amplatze goose neck snare through the right femoral vein. Various principles and steps of device retrieval will be discussed. The ASD was closed in the same sitting using ASO measuring 36 mm.

Case Summary:
37 years old lady, PR, was taken up for transcatheter closure under general anesthesia. Her ASD was closed using a 34 mm Amplatzer septal occlude (ASO) with the help of balloon assisted technique. The procedure was uneventful and the device appeared to have captured all the rims adequately. At the time of extubation, the device embolized into the right ventricle (RV). The device was displaced from the RV back into the right atrium (RA). From the RA it was successfully recaptured. The ASD was closed in the same sitting using ASO measuring 36 mm.

TCTAP C-126
Stenting Atretic RVOT in PA/NSD with MAPCA Substituting a RV-PA Conduit
Lucy Youngmin Eun, Jae Young Choi
Yonsei University Severance Hospital, Korea (Republic of)

[Clinical Information]
Patient initials or identifier number: ND Kim
Relevant clinical history and physical exam:
A 9 year old boy patient has complex congenital heart disease: pulmonary atresia with ECD, hypoplastic pulmonary arteries (PAs) and MAPCAs.
He was chronic ill-looking appearance with cyanosis. He showed mild growth restriction with 140 centimeters height (3-10 percentile) and 23 kilograms weight (3-10p). Blood pressure was 104/50 mmHg; heart rate was 100 pulse/min; respiratory rate was 24 breath/min and body temperature was 36.8 centigrade. Pulse oximetry showed decreased saturation, 80 % in room air. Physical examination showed regular heart beat, grade 2 to 3 continuous murmur on upper left sternal border and grade 2 pansystolic murmur on apex. Chest x-ray showed no cardiomegaly (cardio-thoracic ratio: 0.50) and electrocardiography showed normal sinus rhythm, biatrial enlargement but there was no abnormal rhythm and no intracardiac conduction delay.

Relevant test results prior to catheterization:

Echocardiography revealed his complex congenital heart disease: pulmonary atresia with ECD, hypoplastic pulmonary arteries (PAs) and MAPCAs. He has a functional single ventricle with rudimentary left ventricle (LV) and aorta from right ventricle (RV). There was a common atrium and grade 2 common atrioventricular valve regurgitation with 87mmHg pressure gradients. There were associated venous anomalies; bilateral superior vena cava (SVC) - left sided SVC drains to left sided atrium, four pulmonary veins consists of one common pulmonary vein which drains to left sided atrium. Myocardial function was mildly decreased with 50% of ejection fraction.

Relevant catheterization findings:
The first angiography showed hypoplastic native PAs (right PA, 2.5mm; left PA, 2.8mm) and six MAPCAs. MAPCA 1 was emerging from the right subclavian artery and was connected to the right upper pulmonary lobe. MAPCAs 2 and 3 were emerging from the descending aorta and was connected to the right upper lobe and right lower lobe. MAPCA 4 was emerging from aortic arch and was connected to left upper lobe. MAPCAs 5 and 6 were emerging from descending aorta to left lower lobe superior segment and posterior segment. He underwent three angiographies for increasing pulmonary artery flow.

[Interventional Management]

Procedural step:
The second angiography was performed four days after the first angiography. Retrograde balloon angioplasty and stent insertion on RVOT was done successfully and balloon angioplasty of MAPCAs 4, 5 were also done. After one year later, he received two angiographies (Aug, 2011 with 10 yr-old ages). Balloon angioplasty was done on stent insertion site of RVOT, LPA and RPA at the third angiography and balloon angioplasty was done on RVOT and RPA junctional stenosis at the fourth angiography. Two MAPCAs occlusion angiography was performed. Fifth angiography performed on Aug. 2012 showed intact pulmonary artery flow. Main branch of MAPCAs 2, 3 were occluded with coil and vascular plug. Branches of MAPCAs 2, 3 were occluded on Aug, 2013.

Case Summary:

Reconstruction of Atretic RVOT by transcatheter technique maybe feasible in selected cases. This technique along with occlusion of feeding MAPCAs from aorta to native PAs may promote significant growth of native pulmonary arterial trees. We report a case of transcatheter rehabilitation of pulmonary arteries in PA VAS with MAPCAs, in which case surgical treatment had been hesitated by surgeons.