We advised the patient should do PCI on LM lesion two months later, but the patient delayed it!
And the patient suffered Acute inferior wall myocardial infarction again on fourteenth, November, 2013.
6f EBU3.5 guiding catheter; 0.014 inch BMW GUIDE-WIRE; Eagle Eye Gold Ultrasound catheter
Sprinter 2.5×12 balloon; Grip 4.0×8 balloon; Excel 2.5×18 stent; BuMA 4.0×10 stent;

TCTAP C-162
Unique Features of Spontaneously Recanalyzed Coronary Artery - Assessment by Fractional Flow Reserve, Instantaneous Wave-free Ratio, Intravascular Ultrasound, and Optical Coherence Tomography
Jun Kikuchi
Gifu Heart Center, Japan

[Clinical Information]
Patient initials or identifier number: 00198307
Relevant clinical history and physical exam:
General: He is pleasant, 160cm, 50kg Lungs: Clear without rales, rhonchi or wheezes. Heart: S1, S2, regular rate and rhythm. Carotids without bruits. Past medical history: Gastric ulcer bleeding (46 y.o.), Dyslipidemia. Social history: Smoked 20 x 27years; quit 8 months PTA.
Relevant test results prior to catheterization:
ECG showed Q wave in III, aVF and poor R progression in V3, V4.
Relevant catheterization findings:
CAG revealed irregular linear filling defects without severe narrowing in the mid left anterior descending artery (LAD). OCT showed multiple channels divided by thin septa. IVUS showed multiple cavities filled with blood speckling. The value of FFR and iFR in LAD far distal were 0.49 and 0.59, respectively.

[Interventional Management]
Procedural step:
We started the procedure by transradial approach with 6Fr Guiding catheter (Mach1 VL3.5, Boston scientific). CAG revealed spontaneous recanalization and irregular linear filling defects with mild stenosis in LAD. Consequently, FFR and iFR were measured (PrimeWire Prestage plus, Volcano), OCT (FD-OCT imaging system, ILUMIEN optis, Imaging catheter: Dragonfly jp, St. Jude Medical) and IVUS (IVUS imaging system: VSIWAVE, Imaging catheter: Intrafocus II ViewIT, TERUMO) were performed. First, the target lesion was dilated using a balloon (Scorex 2.5mm/15mm, Orbusneich Medical). Next, we succeeded in STENT implantation in LAD (Xience Xpedition 2.5mm/38mm, Abbott Vascular). We were able to confirm a sufficient expansion of STENT in IVUS and OCT. And value of FFR and iFR in LAD far distal rose to 0.83 and 0.94, respectively.

Case Summary:
A 48 y.o. man was admitted to our hospital with the diagnosis of acute inferior myocardial infarction (AMI). The coronary angiography (CAG) revealed total occlusion of proximal right coronary artery (RCA) and proximal left anterior descending artery (LAD). Occluded RCA was recanalized with bare-metal stent implantation successfully. He discharged on 15 days after admission without any complication. Dual antplatelet therapy (aspirin 100mg and clopidogrel 75mg) was started immediately after PCI. However, he discontinued clopidogrel from 34 days after PCI due to gastric ulcer. He was readmitted to undergo LAD PCI 263 days after first PCI because of the persisting chest oppressive sensation. CAG revealed spontaneous recanalization of LAD. OCT revealed typical characteristic structure with multiple channels divided by thin septa (called “Swiss cheese” or “Lotus roots”). Despite visually recognized as mild stenosis in angiography, FFR and iFR showed hemodynamically significant lesion at spontaneous recanalization sites. Physiological and structural features of spontaneously recanalized coronary artery were clarified by intravascular pressure measurement and imaging.

TCTAP C-163
A Case of In-stent Restenosis Lesion Whose Two-chamber Structure Was Revealed by OCT and Assessed Histologically
Takashi Matusu, Koji Oka
National Hospital Organization Nagasaki Medical Center, Japan

[Clinical Information]
Patient initials or identifier number: Y-T
Relevant test results prior to catheterization:
ECG:60bpm, sinus rhythm
Chest X-rayCTR=50%

Instantaneous wave-free ratio(iFR) in far distal left anterior descending artery
OCT of spontaneously recanalyzed vessel

Left anterior descending artery was spontaneously recanalized.
Relevant catheterization findings:
RCA#1: 50%, #2: 99% stenosis
[Interventional Management]
Procedural step:
Guiding Catheter: 8Fr. Breetip JCR 4.0 SH
We crossed the lesion by the TGV wire, and with the suction catheter, inserted the Optical coherence tomography (OCT) wire along the TGV wire through the lesion. OCT revealed the two-chamber view divided by the continuous diaphragm-like structure through the neointima before the narrowing. On intravascular ultrasound (IVUS), it was showing the black-hole phenomenon. Afterwards, we excised that structure by directional coronary atherectomy (DCA), then, expanded it by non-compliant balloon (φ3.75mm).
Case Summary:
A 78 year-old female who underwent Endeavor stent (3.0 x 30mm) placement at the proximal site of right coronary artery (RCA#1-2) due to effort angina had the two-time in-stent restenosis afterwards. The lesion was treated by cutting balloon in both times. This time, we took her in for the follow-up CAG. CAG revealed the 99% stenosis in the stent (RCA#2).

The histological examination of the tissue excised by DCA revealed the neointimal view consisting of an extracellular matrix and myofibroblast. Also the tissue thought to be an extracellular matrix by HE staining showed a different staining characteristic, and indicated that it mainly consisted of proteoglycan.

TCTAP C-164
A Case Struggled to Salvage the Intravascular Ultrasound (IVUS) Catheter Entrapment at Stent Edge
Masashi Nakao
Tokyo Women’s Medical University, Japan

[Clinical Information]
Patient initials or identifier number: S.H

Relevant clinical history and physical exam:
A 69-year-old man presented with recurring effort chest pain.

Relevant catheterization findings:
Coronary arteriography showed severely calcified diffuse narrowing in his mid right coronary artery.

[Interventional Management]
Procedural step:
From trans-radial approach, a 6Fr AL2 guide-catheter was engaged. Following several pre-dilation using non-compliant balloon at high pressure, two 2.75mm Xience-V stents were overlapped. IVUS of Atlantis Pro SR2 was advanced; however, its exit port was caught by the distal stent edge. Pushing and pulling could not free the IVUS catheter even after inserting a 0.14 inch coronary guide-wire after removing the imaging-core. We engaged another 6Fr JR4 guide-catheter from femoral approach, then, advanced another guide-wire with stronger back-up force using anchoring technique to comus branch. Advancing a child catheter of Corsair™ to the site of entrapment also failed to slip off the IVUS catheter. We finally dilated the site by 1.0/2.5mm balloon at low pressure, and then successfully extracted the IVUS catheter by putting the deflated balloon along the stent to avoid longitudinal deformation.

TCTAP C-165
Saphenous Vein Graft Neoatherosclerosis in OCT
Balaji Pakshirajan, Ajit Mallasari
Madras Medical Mission, India

[Clinical Information]
Patient initials or identifier number: Mr. AK

Relevant clinical history and physical exam:
58 yrs male
Diabetic and Hypertensive
S/P PTCA with stent to native LCX (2008)
S/P PTCA with stent to SVG – RCA (27/03/2013)
Presented with Effort Angina Class II-III
O/E:
PR: 80/min.
BP: 110/80 mmHg
CVS: S1, S2 (+)
RS: NVBS (+)

Relevant test results prior to catheterization:
ECG: NSR, HR – 71/min, Q5 in III, T inversion in I, II, aVL
ECHO: Mild LV dysfunction

Relevant catheterization findings:
Native coronary angiogram
LCA angiogram shows normal LMCA
LAD is type II vessel and had 90-90% stenosis in the proximal segment followed by total occlusion in the mid segment.
LCX is non-dominant and shows
Stent patent in the proximal segment. LCX and branches are free of disease
RCA is dominant and has total occlusion in the proximal segment.
Graft angiogram
Patent LIMA to LAD. LIMA and distal LAD are free of disease
SVG to OM is occluded
SVG to PDA has 90% stenosis in the mid segment followed by another 90% stenosis.

[Interventional Management]
Procedural step:
Procedure done under local anaesthesia through right femoral approach. SVG-PDA was engaged and lesions in the mid segment were crossed. Predilatations were done using a 2x10mm stent biopsy upto 10 atm for 15 sec. Cutting balloon angioplasty was done using 2.75x10mm f lexion upto 6 atm for 15 sec. Stent deployment was done to the distal lesion using 3.5x28mm xience V at 12 atm for 15 sec and the proximal lesion was stented using 3.5x28mm xience V at 16 atm for 15 sec. Post stent dilatations were done with 3.5x12mm NC trek upto 24 atm for 15 sec. Final angiogram showed no residual stenosis with good antegrade flow. The procedure was uneventful. Patient shifted with stable hemodynamics.

Case Summary:
Pre procedure OCT showed Neoaatherosclerosis of SVG instent restenosis
Post procedure OCT showed well apposed and overlapped stent.

TCTAP C-166
Preventive Angioplasty in LAD During Primary PCI Where the Culprit Vessel Is the RCA
Habibur Rahman
National Heart Foundation Hospital & Research Institute, Bangladesh

[Clinical Information]
Patient initials or identifier number:
A 28 years old male

Relevant clinical history and physical exam:
Central chest pain for 3 hours, HR: 110/min, BP: 90/70 mmHg, clear lung bases

Relevant test results prior to catheterization:
ECG: Acute Inf. MI, LVEF: 50%, raised serum markers

Relevant catheterization findings:
LAD: Spiral dissection and loaded with thrombus starting at the ostium
RCA: Totally occluded

[Interventional Management]
Procedural step:
Trans Femoral approach

7 Fr. vascular access sheath used
Left JL. 3.5 catheter for diagnostic angiography for the left side
Culprit vessel (RCA) was engaged with AL 1 guide catheter
Runthrough Floppy wire crossed
Thrombus aspiration done by aspiration catheter

Intra-coronary vasodilators given
A 4.0/24 DES deployed with TIMI III flow
Left side engaged with EBU guide catheter
Runthrough Floppy wire attempted but failed to cross
Hi-torque floppy wire taken
Thrombus aspirated
3.5 mm x 26 mm Resolute Integrity Distal Left main to LAD
IVUS revealed mal-apposed stent and post dilated with higher NC balloon