TCTAP C-141

Hybrid Revascularization Procedure in Patient with Multivessel Coronary Disease Presenting with Unstable Angina

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[Clinical Information]
Patient initials or identifier number:
W.C.

Relevant clinical history and physical exam:
A 63 years old male presenting with unstable angina and multivessel coronary disease. His medical history included hypertonia arterialis, diabetes mellitus type 2, hyperlipidemia, varicose veins, obesity and smoking history.

Relevant test results prior to catheterization:
Echocardiographic assessment before the procedure showed ejection fraction of 56%, hypokinesis of IVS and inferior wall. The valves were normal. The main laboratory parameters on admission were as follows: HGB 14.7 g/dl, Platelets 138 G/L, GFR 55.40 ml/min, TnI <0.010 ng/ml. ECG was within a normal range with Q wave in lead III.

Relevant catheterization findings:
The main findings by coronarography were: (1) critical stenosis in proximal part of LAD, (2) critical stenosis in proximal part of Cx, (3) significant stenosis of 80% in proximal part of RCA.

[Interventional Management]
Procedural step:
Despite unquestionable advantages of percutaneous coronary interventions (PCI) and coronary artery bypass graft (CABG) surgery, these methods have some inherent limitations which incline for implementing into clinical practice the new hybrid revascularization technique, which combines the best elements of both PCI and CABG. This includes new generation antiplatelet agents and drug eluting stents with proven safety and efficacy and arterial grafting of LAD using left internal mammary artery (LIMA).

In the view of MVD with relatively simple lesions located in RCA and Cx and critical stenosis located in proximal LAD the patient was offered hybrid procedure which became frequently used and evaluated in our center.

The procedure was performed in the novel state-of-the art hybrid room, under general anaesthesia. In order to maximize myocardial perfusion and reduce the risk of myocardial necrosis, PCI of Cx and RCA was initially performed with the use of two everolimus eluting stents (Promus, Boston Scientific). This was followed by LIMA-LAD grafting with subsequent contrast injection in order to check graft patency.

As per protocol, the patient received ticagrelor in a dose of 180mg 12 hours prior to the procedure and this was continued for the remaining period of 12 months. It was accompanied by acetylsalicyclic acid, beta-blocker and statin (rosuvastatin). Despite the DAPT was initiated before the procedure no excessive bleeding was observed. Immediate postprocedural angiography of the treated coronaries showed excellent result with TIMI 3 flow. LIMA and anastomosis were patent with good distal perfusion.

During hospitalization no complications were observed and patient remained in overall good condition. At discharge, the patient reported a marked improvement in the functional and angina status.

At 1 month follow-up he remained in a good general condition without symptoms of ischemia or dyspnea.
Case Summary:
Hybrid procedure was safe and feasible. It provides opportunity of complete revascularization during single procedure combining the best elements of both PCI and CABG.

TCTAP C-142
Dislodged Stent Due to Stent Delivery Balloon Rupture
Nobuyuki Miyai
Kouseiki Takeda Hospital, Japan

[Clinical Information]
Patient initials or identifier number: S-12

Relevant clinical history and physical exam:
The case is a 81-year-old Japanese female.
Her coronary risk factor was diabetes mellitus, dyslipidemia, and hypertension.
She had chest discomfort during some activity. She was suspicious of ischemic coronary artery disease and admitted to our hospital.
She had severe difficulty in hearing and speaking.

Relevant test results prior to catheterization:
Electrocardiogram showed sinus rhythm and no ST-T change.
Echocardiogram revealed good cardiac function.

Relevant catheterization findings:
Coronary angiography revealed significant stenosis of mid-portion of the left ascending coronary artery (LAD).

[Interventional Management]
Procedural step:
Target lesion was the mid-portion of LAD. The coronary system was cannulated using a 5 Fr IL3.5 guiding catheter by right radial artery approach. The SHION wire was advanced and we performed Intravascular ultrasound (IVUS) study. We confirmed a ring-like calcification in the proximal of the target lesion. So, the lesion was predilated with a 2.5mmx13mm diameter Lacross non slip element balloon (NSE). When we inflated with the NSE at 12 atm, the NSE was ruptured. Then, we used a 3.0mmx15mm diameter high pressure balloon. When we inflated this balloon at 18 atm, the indentation of balloon was disappeared. So, we advanced a 3.0mmx28mm diameter Xience Prime stent at the mid portion of LAD. When we inflated with the stent until 8 atm, the stent delivery balloon was ruptured. We could not expand the stent again by this stent delivery balloon. The proximal site of the stent was slightly expanded and the distal site of the stent was fitted on the stent delivery balloon. So, when we pulled the balloon, this stent could move together. But, the proximal edge of the stent was caught at the tip of the guiding catheter and we could not retrieve into the guiding catheter. We engaged a 7Fr IL3.5 guiding catheter via right femoral artery.
We captured the stent by a snare wire. But, it was difficult to retrieve the stent because the distal site of the stent was fastened on the balloon. We rubbed off the stent from the balloon with the two guiding catheter and successfully retrieved the stent. We performed IVUS study again and deployed a 3.0x28mm diameter Nobori stent at the mid-portion of LAD. We expanded the stent with a 3.0mmx18mm diameter high pressure balloon and the final angio showed TIMI 3 grade flow.

Case Summary:
We performed PCI for the mid-portion of LAD. When we inflated with the 3.0mm x 28mm diameter Xience Prime stent until 8 atm, the stent delivery balloon was ruptured. We could not expand the stent again. So, we retrieved the stent.

TCTAP C-143
Absorb Stenting in Acute STEMI: How I Did It
Anuul Patadia, Rohit Manoj
PGIMER, Chandigarh, India

[Clinical Information]
Patient initials or identifier number: SN

Relevant clinical history and physical exam:
Patient gk, 50 years male
Relevant test results prior to catheterization:
Electrocardiogram revealed good cardiac function.

Relevant catheterization findings:
Coronary angiography revealed signiﬁcant stenosis of the mid-portion of LAD.

[Interventional Management]
Procedural step:
Target lesion was the mid-portion of LAD. The coronary system was cannulated using a 5 Fr IL3.5 guiding catheter by right radial artery approach. The SHION wire was advanced and we performed Intravascular ultrasound (IVUS) study. We conﬁrmed a ring-like calcification in the proximal of the target lesion. So, the lesion was predilated with a 2.5mmx13mm diameter Lacross non slip element balloon (NSE). When we inflated with the NSE at 12 atm, the NSE was ruptured. Then, we used a 3.0mmx15mm diameter high pressure balloon. When we inflated this balloon at 18 atm, the indentation of balloon was disappeared. So, we advanced a 3.0mmx28mm diameter Xience Prime stent at the mid portion of LAD. When we inflated with the stent until 8 atm, the stent delivery balloon was ruptured. We could not expand the stent again by this stent delivery balloon. The proximal site of the stent was slightly expanded and the distal site of the stent was ﬁtted on the stent delivery balloon. So, when we pulled the balloon, this stent could move together. But, the proximal edge of the stent was caught at the tip of the guiding catheter and we could not retrieve into the guiding catheter. We engaged a 7Fr IL3.5 guiding catheter via right femoral artery.
We captured the stent by a snare wire. But, it was diﬃcult to retrieve the stent because the distal site of the stent was fastened on the balloon. We rubbed off the stent from the balloon with the two guiding catheter and successfully retrieved the stent. We performed IVUS study again and deployed a 3.0x28mm diameter Nobori stent at the mid-portion of LAD. We expanded the stent with a 3.0mmx18mm diameter high pressure balloon and the ﬁnal angio showed TIMI 3 grade ﬂow.

Case Summary:
We performed PCI for the mid-portion of LAD. When we inﬂated with the 3.0mm x 28mm diameter Xience Prime stent until 8 atm, the stent delivery balloon was ruptured. We could not expand the stent again. So, we retrieved the stent.

TCTAP C-144
Biovascular Scaffold Recoil
Karthik Tummala, Jabir Abdullakutty, Rony Mathew
Lisse Hospital, India

[Clinical Information]
Patient initials or identifier number: TSV

Relevant clinical history and physical exam:
A 50 years old male

Relevant test results prior to catheterization:
Good LV function, no Regional wall motion abnormality
TMT – positive for inducible ischemia

Relevant catheterization ﬁndings:
Single vessel disease

[Interventional Management]
Procedural step:
From Radial approach, 6F EBU 3.5 coronary guide was used to cannulate the Left main. Abott 0.014” Balanced middle weight wire was used to wire the Left anterior descending artery. The lesion distally was pre dilated with a Boston Maverick 3x15 balloon at 14 atm, check angiogram showed a residue of 70% stenosis. A serial predilation was done with Boston Maverick 3 x 15 at 12-14 atm. The lesion was stented with Absorb BVS 3.5 x 28 mm at 12 atm. There was a residue to 50 % in check angiogram then the stented area was post dilated with non-compliant Boston Quantum Maverick Balloon 3.5 x 8 mm at 18 atm and non-compliant Balloon 4x8 mm at 18 atm serially. Intracoronary balloon dilatation the vessel goes to 3.5 mm and recoils after deflation. There was a residue of 40% in the stented area in the distal LAD. The proximal LAD lesion was predilated with Boston Maverick 3.5 x 15 balloon at 12 atm, and was stented with Absorb 3.5 x 18 mm at 12 atm with an overlap into the distal stent. Then the stented area was post dilated with Boston Quantum Maverick Balloon 4x8 mm non-compliant balloon at 16 atm.

Case Summary:
There is a acute recoil of the vessel after angioplasty and the biovascular scaffold goes along with the recoil without much radial support.

TCTAP C-145
A Case of Very Late Stent Thrombosis and Stent Fracture: A Serial Optical Coherence Tomography Study
Tomoyuki Yamaguchi
Wakayama Medical University, Japan

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

Relevant clinical history and physical exam:
Hypertention, chronic renal failure

[Interventional Management]
Procedural step:
We performed follow-up coronary angiography three years after implantation of paclitaxel-eluting stent (PES) and suggested stent thrombosis in the PES. We detected stent structure and thrombus by optical coherence tomography.

Case Summary:
Very late stent thrombosis (VLST) after drug-eluting stent implantation is rare, but a serious complication. Causes of VLST remain unclear. We experienced a suggestive case of a mechanism for stent thrombosis. A 55 years-old man was implanted paclitaxel-eluting stent to mid-portion of right coronary artery (RCA) for effort angina about 3 years ago. He again suffered from effort angina 2 years ago, and coronary angiography (CAG) showed progressive stenosis of proximal region of the RCA. Optical coherence tomography (OCT) presented late acquired malapposition in the PES, but we didn’t perform additional intervention. Three years after the first coronary intervention, CAG showed stent thrombosis in the PES. OCT revealed thrombosis and stent fracture of the PES. Serial OCT examination exposed one cause of stent thrombosis.

TCTAP C-146
Recurrent Syncope Due to Anomalous RCA
Yuan Ya, Lin Xue Bo
Shanghai East Hospital Tongji University, China

[Clinical Information]
Patient initials or identifier number: guoxiaoxing

Relevant clinical history and physical exam:
M, 74 years old

Relevant test results prior to catheterization:
No abnormal Lab Examination (blood routine, liver function and renal function)