Case Summary. In this case, coronary perforation was caused by wire perforation in septal branch. Despite total of 85 minutes balloon inflation and protamine infusion, we still could not stop the bleeding. The reason why the bleeding did not stop was that the balloon did not directly touch the bleeding site. This case revealed that coil-embolization is very effective in such a situation.

ANTIPLATELET AGENTS AND ANTICOAGULANTS (TCTAP C-041)

Unexpected Events on Floating Unapposed Drug Eluting Stent Strut (Dark Side of Stent Strut)

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[CLINICAL INFORMATION]
Patient initials or identifier number. JJS
Relevant clinical history and physical exam.
Case 1.
A 60 year-old male patient received percutaneous coronary intervention (PCI) due to STEMI. As coronary risk factors, he had history of diabetes (15yrs) and current smoking (30PY).
Case 2.
Seventy years old female was consulted for assessment of perioperative management of non-cardiac surgery (total knee replacement). As a cardiac risk factors, she had history of hypertension and diabetes for 10 years. She had a history of prior PCI at other hospital.

Relevant test results prior to catheterization. Case 1.
At that time, coronary angiogram revealed tight stenosis of proximal left anterior descending artery (LAD) as infarct related artery (Fig.1) and everolimus eluting stent (Promus, 3.5x23mm, Boston Scientific, Natick, MA, USA) was deployed at distal left main trunk (LM) to proximal LAD that crossovered ostium of left circumflex artery (LCX). Post-stent intravascular ultrasound (IVUS) revealed that proximal stent edge was successfully landed at distal LM trunk, and LCX ostium was not compromised. (Fig.2)
Case 2.
A paclitaxel and cilostazol dual drug eluting stent (Cilotax; Cardiotech, Seoul, Republic of Korea) was deployed at proximal LAD due to cessation of clopidogrel 5 days prior to surgery (aspirin mono antiplatelet was continued). He did not complaint of chest pain afterwards during follow up and 9 months follow up CAG showed patent previously deployed stent without any evidence of in-stent restenosis and cross overed LCX ostial site was still intact. (Fig.3, mid pannel) He received DAPT for 12 months and then clopidogrel was discontinued.
Case 1

However, 10 days after aspirin monotherapy he suffered resting onset chest pain. The ECG showed ST elevation in leads I, aVL and ST depression in leads III, aVF. Emergent angiogram demonstrated patent LAD and a focal filling defect in cross overed LCX ostial lesion beyond stent struts that suggesting thrombus. (Fig. 3 lower panel, Fig. 4) IVUS study on LCX showed huge thrombus with mild atheromatous change without evidence of plaque rupture or calcification. Balloon expansion of stent strut on LCX ostium was done. Platelet function test (Verify Now) did not show any evidence of resistant for aspirin or clopidogrel. He received prolonged DAPT for 48 months without clinical event.

Case 2.

However, 5 hours after surgery, she felt severe chest pain and ECG revealed ST elevation on I, aVL leads. CK-MB was elevated as 130 ng/mL. Emergent CAG showed focal filling defect at LCXos.(Fig 4.) IVUS showed completely cross overed LM distal to LAD and suspicious thrombus was found beyond cross overed stent strut. (LCXos side) (Fig.5) Optical coherence tomography revealed attached mixed thrombus on out side of stent strut. (Fig. 6)

Balloon expansion of stent strut on LCX ostium was done. Platelet function test (Verify Now) did not show aspirin resistance. This patient also received prolonged DAPT after this event.
Case Summary. Placement of stent strut on side branch ostium is not rare in clinical situation, however the status of neo intimal coverage on the drug-eluting stent (DES) struts, which are placed across the side-branch vessels, remains unclear. Here we reported unexpected thrombotic events on floating stent strut after cessation of dual anti-platelet therapy.

BIFURCATION AND LEFT MAIN STENTING
(TCTAP C-042 TO TCTAP C-067, TCTAP C-228)

TCTAP C-042
Optimal Management of Major Coronary Bifurcation Stenosis Using Silver Hawk Atherectomy Device a Novel Approach
Ramesh Adiraju
RENU-CA Research Institute, USA

[CLINICAL INFORMATION]
Patient initials or identifier number. DW

Relevant clinical history and physical exam. 54 yrs old female with T2DM, smoker, high cholesterol with elevated triglycerides, diffuse diabetic vasculopathy with previous coronary bypass surgery LIMA to LAD, SVG to RCA in 2006. Status post stent to SVG to RCA 9mths ago. Presented to Emergency with acute non-trans mural lateral wall myocardial infarction.

Relevant test results prior to catheterization. Elevated troponin level at 13.5 with CPK of 345.
- Hbg and CBC normal, Platelet count 463K.
- Bun/Cr 33/1.44.
- Chest X-ray consistent with mild pulmonary congestion.
- EKG sinus rhythm with 3mm ST segment depressions in leads I,aVL, V-4,5,6 and 1mm ST segment depressions in inferior leads.

Relevant catheterization findings. Saphenous vein graft to RCA with stent in the mid segment with degenerative distal disease.
LIMA to LAD patent with diffuse diabetic vasculopathy of distal LAD.
Left Main patent with large left Circumflex coronary artery with a large bifurcating obtuse marginal branch. Left circumflex not grafted.
Critical bifurcation stenosis of left Circumflex (culprit lesion).

[Interventional Management]
Procedural step. Intravenous Integral in infusion initiated (front loading) in the emergency with 300mg clopidogrel loading. Intravenous Integrilin maintained during PCI. Intravenous heparin bolus administered for PCI.
Femoral access with 6Fr sheath, exchanged for 8Fr sheath after angiography for coronary Intervention (PCI).
Left main canalulation using XB 3.5 8Fr guiding catheter. Double wiring of Left Circumflex bifurcation stenosis using two extra support mailman guide wires.
Pre-dilatation of critical lower branch of the bifurcation stenosis with 2.0mm balloon at 4 atmospheres pressure.
SilverHawk SS device passes, piece-meal approach, in both the branches of the bifurcation stenosis.
Double kissing balloon assisted Single stent implantation of lower branch only.
ACT maintained > 300 seconds during PCI.
Successful access site closure after 8Fr sheath removal in cath lab with Mynx extra-vascular closure device post PCI.