Antiplatelet Agents and Anticoagulants
(TCTAP C-037 to TCTAP C-038)

TCTAP C-037
Transcatheter Thrombectomy and Anti Coagulant Management in Massive Pulmonary Emboli Patient with Hemorrhagic Stroke

Faris Basalamah
RS Mitra Keluarga Bekasi Timur, Indonesia

[Clinical Information]
Patient initials or identifier number:
JS, 54 years old
Relevant clinical history and physical exam:
Patient was hospitalised for 25 days after suffer from hemorrhagic stroke that underwent decompression craniotomy immediately. He had hemiplegia and partial aphasis. He was training by the physiotherapist, but still in bed not mobilise well. He had not any anticoagulant to prevent tromboembolism until he suddenly had short of breath and decreased BP and peripheral saturation.

Relevant test results prior to catheterization:
ECG: Sinus Tachycardia, T inverted @ III, S deeper @ I,
Echocardiogram: Good LVEF (66%)
Trivial AR
Severe TR, TVG 44mmHg
RV dilatation
Laboratory: D Dimer 5.9 ml/L

Relevant catheterization findings:
Pulmonary Artery Angiography Shown: Massive Right Pulmonary Artery Thromboembolism

[Interventional Management]
Procedural step:
1. Puncture right femoral vein then inserted 7Fr sheath
2. PA angiography was performed with 6Fr pigtail catheter in main pulmonary artery
3. Massive right pulmonary thromboembolism was confirmed
4. Thromboembolectomy was planned.
5. Temporary pacemaker (St. Jude lead 6Fr) was inserted to right ventricle apex from left femoral vein.
6. Xpeedior trombectomy catheter set was inserted to right pulmonary artery guided with Merit Laureate 260cm 0,035 inch guide wire.
7. Suction was performed with angiojet(R) ultra thrombectomy system.
8. Post procedural evaluation was performed with pigtail catheter 6Fr.
9. Heparin 5000 i.u intravenously was given during procedure
10. After thrombectomy patients was receive enoxaparin 0.6ml sc twice daily continued with Rivaroxaban 15mg twice daily for 3 weeks.
11. After 3 weeks rivaroxaban dose was decreased to 20mg once daily.
12. 1 month after thrombectomy Pulmonary artery CT-scan shown minimal residual thrombus in right pulmonary artery. The D-dimer was below 0.3ml/L
13. Patients was underwent second operation to close the craniotomy and the rivaroxaban was suspend for 5 days, 1 days before surgery and 4 days after surgery.
14. 6 months after thrombectomy (17 December 2013) PA MSCT shown clear in both pulmonary artery, no residual thrombus.

Case Summary:
Successful thrombolectomy with Angiojet in a patient with hemorrhagic stroke post craniotomy continued with Rivaroxaban. 1 month after thrombectomy rivaroxaban was discontinued for 1 week due to patient underwent second surgery to close the craniotomy. 6 months after thrombectomy (17 December 2013) PA MSCT shown clear in both pulmonary artery, no residual thrombus.

TCTAP C-038
How to Manage the Huge Coronary Thrombus in ACS Patient?

Rei Fukuhara
Hyogo Prefectural Amagasaki Hospital, Japan

[Clinical Information]
Patient initials or identifier number:
M.T and H.Y
Relevant clinical history and physical exam:
During primary PCI of ACS patients, we often face to coronary thrombi which cannot be retrieved by aspiration catheter. I would like to introduce two RCA ACS cases with large amount coronary thrombi.

[Case1] A 71-year old man was admitted with chest pain started four hours ago. His risk factors were dyslipidemia, and former smoking. Physical examination revealed no significant findings.
[Case2] A 55-year old man was admitted with chest pain started 11 hours ago. His risk factors were hypertension, dyslipidemia, and current smoking. Physical examination revealed no significant findings.

Relevant test results prior to catheterization:
[Case1] Chest X-ray was unremarkable. ECG showed ST elevation at V1 to 4. Mildly decreased motion at inferior wall was detected by echocardiogram. Elevation of cardiac enzyme (CK-MB = 71 IU / L) was observed.
[Case2] Chest X-ray was unremarkable. ECG showed slight ST elevation and Q waves in inferior leads. A right coronary angiogram was performed under 330mg aspirin and 300mg clopidogrel administration. ACT was controlled over 300 seconds with using heparin. Right coronary artery (RCA) was engaged with 7Fr JR4 guiding catheter with side holes. Initially, by using the FinecrossGT microcatheter, Sion blue was tried to cross distal RCA but failed. Guide wire was changed to Wizard1 and failed to cross distal RCA but negotiated to acute marginal branch. After thrombus aspiration, large amount of thrombus were observed by coronary angiogram. We abandoned to obtain antegrade RCA recanalization in this session for fear of distal embolism. We kept APTT over 50 seconds with using heparin but failed. 50000IU heparin per day was necessary to achieve this goal such as thrombolysis therapy or stent in stent strategy. It was very difficult to determine end point of the session.

[Case1]

Primary PCI was performed under 330mg aspirin and 300mg clopidogrel administration. ACT was controlled over 300 seconds with using heparin. Right coronary artery (RCA) was engaged with 7Fr JR4 guiding catheter with side holes. By using FinecrossMG microcatheter, Sion blue was easily crossed to distal RCA. After thrombus aspiration, TIMI flow was obtained and severe stenosis at Seg3 was observed. Large amount of thrombi were seemed by IVUS in Seg1 to 2. Direct DES stenting was done to Seg3 lesion and we put the 5mm Filtrap distal protection device. After distal protection, we performed balloon dilation with LacrosseNSE 3.5 sized balloon and thrombus aspiration with Dio but failed to retrieve thrombi. To crush the thrombi and get enough lumen area, we deployed BMS (Multi Link 8.4x23 mm) to Seg1. After stenting, migration of thrombi to ostial RCA was observed. For fear of systemic thromboembolism, we deeply engaged the guiding catheter and pushed the thrombus to the stented area. After that, we performed balloon dilation with LacrosseNSE 3.5 sized balloon and thrombus aspiration with Dio over and over but failed to retrieve the thrombi. We abandoned perfect retrieval of thrombi and finished this session by TIMI2 flow. We tried to keep APPT over 50 seconds with using heparin but failed. 50000IU heparin per day was necessary to achieve this goal and three days was passed with low APPT. We performed RCA angiogram 9 days later and it showed total occlusion at Seg 1. We went on to perform re-PCI to RCA. By using Corsair microcatheter, Ultimate bros3 was successfully negotiated to distal RCA. Balloon dilation with Core Through 2.5 sized balloon was performed and distal protection with 5mm Filtrap was done. After distal protection, balloon dilation with LacrosseNSE 3.5 sized balloon and thrombus aspiration with Dio was performed. Some thrombi were retrieved by this procedure but failed complete retrieval of thrombi. Large amount of thrombi was observed by OCT. We could not get procedure success at 2nd session either. After 2nd session, we kept APPT over 50 seconds with using high dose heparin and started warfarin administration. RCA angiogram was performed 1month later from the 2nd session and disappearance of thrombi was observed.

Case Summary:
In these two cases, we did not need complete recanalization to avoid ischemic myocardial damage because there existed collateral flow from contralateral coronary. Although we succeeded to reduce the amount of thrombus in case1, total occlusion of culprit segment was occurred in case2. There were some options to get better result such as thrombolysis therapy or stent in stent strategy. It was very difficult to determine end point of the session.

Bifurcation and Left Main Stenting
(TCTAP C-039 to TCTAP C-076)

TCTAP C-039
Coronary Aneurysm Post LM PCI: Why?
Shiv Bagga
Post Graduate Institute of Medical Education & Research, India

[Clinical Information]

Patient initials or identifier number: SD
Relevant clinical history and physical exam:
50 y/o Female, Htn, CAD ACS AWNSTEMI

Relevant test results prior to catheterization:
2D Echo: RWMA LAD, LVEF 45%

Relevant catheterization findings:
Ostial LAD 90% eccentric stenosis, Right dominant circulation

[Interventional Management]

Procedural step:
Taken for PCI to ostial LAD. Due to anticipated plaque shift to LCX in view of unfavourable angle b/w LAD and LCX, decided for extended stenting of LM for ostial LAD stenosis using a provisional bifurcation strategy. LCA hooked with EBU 3.0 7F Guide. Lesion in Ostial to Prox LAD predilated with 2.5x15 mm PTCA balloon. Subsequently, LM to LAD stenting (cross over technique) done with Endeavor 4.0x24 mm stent. Proximal stent in LM post dilated with 4.5x13 mm Powerail NC balloon. Post PCI no significant plaque or carina shift to LCX. Procedure finished without final kissing balloon strategy.

Case Summary:
10 months post procedure, patient presented with new onset AOE CCS 2 symptoms. Relucent for, check angiography. CT coronary angio revealed diffuse ISR of LAD stent with a suspicion of coronary aneurysm. Conventional coronary angiography revealed a diffuse ISR of LM to LAD stent with a large coronary aneurysm in vicinity of LM bifurcation. Patient underwent successful CABG with LIMA graft to LAD and RSVG to OM. Has been MACE free on subsequent FU.

The case highlights the rare complication of DES PCI i.e coronary artery aneurysm and the plausible mechanism for this complication in this particular case.

TCTAP C-040
Culottes Technique with Assistance of Balloon Cushion to Protect Left Anterior Descending Artery During Treatment of Left Main Distal Tri bifurcation like Stenosis
Shih-Hung Chan
National Cheng Kung University Medical Center, Taiwan

[Clinical Information]

Patient initials or identifier number: Sheng-Tsai Zheng