I. ABSTRACT PRESENTATION

AP 1. Scoring System for Predicting Successful CTO Intervention Based on Angiography Characteristics

Ardian Rizal1, Yudi Her Oktaviono2, Sasmojo Widito1

1Cardiology & Vascular Medicine Department, Brawijaya University
2Cardiology & Vascular Medicine Department, Airlangga University

Objectives: To revisited the relationship between coronary angiography characteristics and successful CTO recanalization and re-形成ing a model (formula) to predict successful CTO recanalization based on coronary angiography characteristics.

Material and Methods: We analyze 287 angiography data from patients that undergone elective PCI between 2011 – 2015 from two major cities in East Java, Surabaya and Malang. Angiography characteristics that being measured were lesion location, ostial, stump morphology, calcification, bridging collateral, bending, side branch, turtousity, previous attempt and CTO length. We performed multivariate analysis with logistic regression to perform probability model.

Results: Independent predictors of failed PCI – CTO were Blunt stump, calcified lesion, lesion length > 20 mm, side branch lesion and proximal vessels turtousity . PCI – CTO success probability then counted with the final formula: p=1/ (1 + e^-Y). Where Y are the final equation derived from logistic regression.

Conclusions: PCI – CTO success probability can be predicted with the model that generated from this multivariate analysis. Five angiography characteristics that strongly associated with failed PCI – CTO are calified lesion, blunt stump, lesion length > 20 mm, proximal vessels turtousity and side branch lesion.

Keywords: Chronic Total Occlusions, angiography characteristics, probability formula.

AP 2. Impact of Ischemic Time on Post-Infarction Left Ventricular Function in ST-Elevation Myocardial Infarction Treated with Primary Percutaneous Coronary Intervention

Sunanto Ng1,2, Jan Paul Ottenvanger1, Arnoed WJ van’t Hof1, Menko-Jan de Boer1, Stoffer Reiffers2, Jan-Henk E Danbrink2, Jan CA Hoomij2, AF Marcel Gosselink2, Harry Suryapranata2

1University of Pelita Harapan, Tangerang, Indonesia
2Isala klinieken, Department of Cardiology, Zwolle, the Netherlands

Background: Myocardial necrosis is a time-dependent event. Nevertheless, clinical studies on association between ischemic time and left ventricle function showed inconsistent findings. Aim of current study is to evaluate the association between ischemic time and the post-infarction left ventricular function in ST-elevation myocardial infarction treated with primary PCI.

Methods: In 2529 patients treated with primary PCI, left ventricular ejection fraction (LVEF) was measured before discharge. LVEF was then counted with the formula: p=1/ (1 + e^-Y). Where Y are the final equation derived from logistic regression. Five predictors of failed PCI – CTO were Blunt stump, calci

Conclusions: PCI – CTO success probability can be predicted with the model that generated from this multivariate analysis. Five angiography characteristics that strongly associated with failed PCI – CTO are calified lesion, blunt stump, lesion length > 20 mm, proximal vessels turtousity and side branch lesion.

Keywords: Chronic Total Occlusions, angiography characteristics, probability formula.
Background: Statin has been proven to reduce mortality in cardiovascular diseases and reduce lipid profile levels. Among the most commonly used is simvastatin, which is suggested to be taken in the evening rather than morning. However, evening administration of drugs is associated with lower compliance.

Objectives: This report aims to assess the effect of simvastatin administration time in lowering lipid profiles.

Methods: Electronic searches of PubMed, BMJ, and ProQuest were performed on 28 September 2015 using the keywords: simvastatin, morning, and evening. Studies included were randomized clinical trials (RCTs) and cohort studies assessing the time of simvastatin administration in adult patients with dyslipidemia. Exclusion criteria include case reports, systematic reviews, studies comparing statin with other drugs or assessing statin in combination with other drugs, and studies with less than 20 participants.

Results: There are 4 RCTs used in this report. All four studies are important, and applicable. Morning and evening administration of immediate-release simvastatin resulted in significant differences of total cholesterol and LDL-C level reductions. There are generally no significant differences in the reductions of HDL-C and triglyceride levels. Adverse effects were comparable between the morning and evening groups.

Conclusion: The administration of simvastatin in the evening has more lipid-lowering effect compared to morning administration. Patients with good compliance can benefit more from evening administration of simvastatin.

Keywords: simvastatin, morning, evening, dyslipidemia.

AP 5. Local Intracoronary Bolus Administration of Combination Eptiubitide and Streptokinase in Primary Angioplasty

Zulikri Muktar, Sutomo Kasiman, Amran Lubis, Nizam Akbar

Cardiology Department of Medical School Sumatera Utara University, Adam Malik General Hospital, Murni Teguh Memorial Hospital and Colombia Asia Hospital, Medan, Indonesia.

Objective: This study purpose is to investigate effect of local intracoronary bolus administration of combination eptiubitide and streptokinase to resolve occlusive thrombus (TIMI 0 / 1), prevention microvascular obstruction in patients with acute STEMI.

Material and Method: Cohort, control nonrandomised study. Collecting samples began from March – September 2015. 38 patients with acute STEMI received standard therapy, as controlled from other colleague patients. The primary end point was assessment of postprocedural TIMI and MBG was graded by two independent Intervention Cardiologists. Angioplasty procedure was performed by single operator.

Result: Patients aged between 36 to 75 years. Symptom to procedure time was 15 – 384 hours. Infarct location was 23 anterior and 15 inferior wall. Diagnostic angiography, TIMI 0 and MBG 0 were 34 patients. TIMI 1 and MBG 1 were 2 patients. After Primary Angioplasty, TIMI 3 in 36 patients (94.7 %). TIMI 2 in 2 patient (5.3 %). MBG 3 in 35 patients (92.1%), MBG 2 in 3 patients (7.9%). In standard therapy patients, diagnostic angiography, TIMI 0 and MBG 0 were 25 patients. TIMI 1, and MBG 1 were 2 patients. After Primary Angioplasty, TIMI and MBG 3 in 14 patients (51.9%). TIMI and MBG 2 in 13 patients (48.1%). Statistical analysis (Person Chi-Square) from two groups were significantly different, P = 0.001.

Conclusion: The using of intracoronary combination bolus eptiubitide 3.75 mg and streptokinase 100 kU showed that successfull lysis occlusive thrombus in patients with acute STEMI.

Keywords: STEMI-ST Segment Elevation Myocardial Infarction. TIMI-Thrombolysis in Myocardial Infarction. MBG-Myocardial Blush Grade. MPCG-Myocardial Perfusion Contraction Grade.

II. CASE PRESENTATION

CP 1. PCI in Long Lesion CTO and Blunted Stump “What Should We Do ??”

Israal Masri, Muhammad Syukri

Interventional Cardiology Fellowship Program
DR M Djamil General Hospital - Padang

We report on a 53 years old man with chronic total occlusion (CTO) of the proximal left anterior descenden (LAD) artery, which is treated by percutaneous coronary intervention using the antegrade technique. The J-CTO score was difficult to guidewire crossing the CTO lesion in 30 minute, but we crossed the lesion due to visible micro channel. Step up wire, from the soft to stiff guidewire and than change to soft wire after stiff wirecross the CTO lesion. We did the multiple balloning and implant 2 overlapping stents in the ostual until mid LAD. The final is result TIMI flow 3 MBG 3.

Keywords: Chronic total occlusion, Antegrade technique, J CTO Score, Step up wire.

CP 2. Dealing with Ostial Lesion by Using Floating/Anchor Wire Technique: Experiences of 3 Ostial RCA Cases

Dasdo A. Sinaga

Awal Bros Hospital, Pekambaru, Indonesia

Angioplasty to ostial RCA lesion is technically challenging due to several factors comprising pressure damping, suboptimal stent positioning and geographical miss. Several methods have been proposed to facilitate such intervention: such as conventional, Szabo, and floating/anchor wire techniques. We are reporting 3 cases of ostial RCA intervention by conduating floating wire technique. With this, the guiding catheter is placed in the ostium, then main guidewire is advanced distally. To prevent pressure damping, the guider was retracted back out of the ostium, then swiftly a second wire is placed in the aortic root. The second guidewire prevents the guiding catheter from deep engagement while providing sufficient back-up support and lastly help positioning stent right at the ostium.
The first case was an unstable angina case with RCA lesion as the culprit. To intervene the aorto-ostial RCA disease, a 6 Fr JR 3.5 guiding catheter was used with Sion Blue and Asahi Soft guidewires as the main and floating wires respectively. The second case was a stable angina class III patient, with prior history of failed ostial RCA angioplasty. Previously, the procedure was complicated by chest pain and severe hemodynamic deterioration which happened soon after RCA cannulation with an AL-1 catheter. This time, the patient was prepared with transvenous pacing through right femoral vein. Ostial RCA cannulation was conducted with a less aggressive 6 Fr JR 3.5 guider. Preventing prolonged pressure damping, the main guidewire, a Fielder XT, was positioned close to the distal catheter tip before engagement. After successful wiring, the catheter was quickly pulled back to hinder pressure damping. After second wire placement, the remaining procedure was uneventful. The last case was a patient presenting with chest pain with ECG revealing ST elevation at anterior leads and pathologic Q wave at the anterior-inferior leads. After wiring attempts, mid LAD was identified to be a chronic occlusion. Attention was subsequently given to the ostial RCA occlusion. After RCA cannulation with a 6 Fr Ikari Left catheter, crossing the occlusion was difficult because of insufficient guidewire support. Hence a Sion Blue wire was placed at a small RV branch, very close to the ostium, to anchor the guider. After successful wiring with a Fielder XT, the first wire was placed at the aortic root. Afterhand, predilatation and ostial stent implantation were conducted without significant challenge. All procedures were done through right radial approach with good results.

**CP 3. Simple Provisional Bifurcation**

Andria Priyana

_Department Cardiology and Vascular Medicine,
Cengkareng General Hospital, Jakarta, Indonesia_

Bifurcation lesion is still a challenge in interventional cardiology. It has increased difficulty in technical procedures, and increased restenosis rate in the follow-up. Until now, provisional side branch stenting is preferred rather than routine two stent strategy. In this case, we dealt with bifurcation stenosis Medina classification 1,1,1 or Duke type D in LCx. There was very tight stenosis in the ostial side branch with TIMI flow 3. After had implanted DES in the LCx, we performed kissing balloon and found the better result of the ostial side branch with TIMI 3 flow. Therefore we didn’t do two stent strategy in this case.

**CP 4. Tortuous, Angulated, and Calsiﬁed Lesion: How to deal with**

Dhani Tri Wahyu N1, Yudi Her Oktaviono2

1Surabaya ISIC Fellowship Program
2Dr. Soetomo Teaching Hospital, Surabaya, Indonesia

The presence of angulated lesions and calcified lesions have been identified as significant predictors of percutaneous coronary intervention (PCI) failure and remain a technical challenge, include difficulty in delivering the interventional equipment and increased risk of vessel dissection and vessel perforation. This case report presents a man with stable angina who underwent PCI on calcified and angulated lesion at ostial proximal LAD. Right femoral approach with 7F must be changed with long sheath 45cm due to tortuosity of femoral artery. Optimal support using 7F guiding Catheter for delivery wire, noncompliant balloon and stent cross angulated lesion ostial to distal LAD. Secondary stent planned to be delivered overlapping with first stent, but the stent cannot passed proximal LAD even using mother and child technique. After deploying stent at ostial-proximal LAD, the angulation and tortuous of proximal vessel became cleared and easily provided access to mid LAD using child catheter passed through stent at proximal LAD and the third stent had been deployed at proximal-mid LAD overlapped with the ostial-proximal stent. Three DESs had been successfully implanted on ostial-distal LAD. Angulated, tortuous and calcified lesion can be dealt by using many technique to achieve optimal support for having PCI equipment pass through the lesion. One of some technique that can be used to manage that kind of lesion is by placing stent to straighten the angulated vessel and delivering the stent with child catheter.

**Keyword:** Angulated lesion, child catheter, straighten the vessel

**CP 5. Managing CTO at Bifurcation with Unknown Entry Point**

Dandy Hari Hartono, Yudi Her Oktaviono

_Dr. Soetomo Teaching Hospital, Surabaya, Indonesia_

CTO lesion and bifurcation lesion remain difficulties in PCI. The procedure becomes extremely challenging when both type of lesion present at the same site of the coronary artery. This case report presents a man with triple vessel disease who underwent PCI. The angiogram revealed bifurcation lesion at LAD-D1, accompanied by CTO at mid LAD immediately after bifurcation with unknown entry point. The CTO was failed to be crossed in several attempts, but finally by using stiff guidewire under microcatheter guiding, the entry point became obvious and the CTO had been successfully crossed through. Furthermore, 2 DESs had been deployed at bifurcation lesion and the TIMI 3 flow had been completely achieved. This case proved that microcatheter is very useful to track the entry point of CTO.

**Keyword:** CTO - bifurcation lesion - unknown entry point - microcatheter.

**CP 6. Management of recurrent Cardiac Tamponade post simple PCI**

Angke Widya, Yudi Her Octaviono

_Dr. Soetomo Teaching Hospital, Surabaya, Indonesia_

Introduction: Coronary artery perforation is an infrequent complication of percutaneous coronary interventions (PCIs) (0.2%-3%, depending on the series) that can have a poor prognosis because of the risk of cardiac tamponade, need for surgery, pseudoaneurysm formation, develop-ment of arrhythmia, and ultimate death.

Case Description: A 60-year-old male patient with history of ACS-NSTEMI inferior wall myocardial infarction one day before, and was send to our hospital because of ongoing angina. His coronary angiogram revealed a 90% occlusion of the distal right coronary (RCA).The left main, LAD and left circumflex artery (LCX) were normal. The treatment were: Aspirin, Ticagrelor, Fondaparinux, Statin. This patient underwent successfully intervention of the RCA lesion with direct stenting via Radial approach, using JR 4.0, 6F with PTCA wire runthrough NS Floppy , using DES Cardura...
3.0/18. Subsequently, after 8 hours the patient developed chest discomfort, hypotension and became shock cardiogenic. Evaluation RCA showed that there was a perforation at small branch distal RCA. Emergency table-side echocardiography revealed a large pericardial effusion and cardiac tamponade. Immediate percutaneous pericardiocentesis was performed to relieve cardiac tamponade, 350 ml of fresh blood was drained with rapid hemodynamic improve-ment. The perforation was successfully occluded with a microcoil embolization using Tornado 3x2 mm, following this, he was shifted to ICCU. Further, considering the drainage rate of the hemorrhagic pericardial fluid still 150 mL/hour. The APTT was > 250 sec!! (N 23.9-38.9). Reversal of heparin anticoagulation with protamine was deferred using Protamine 25 mg and after 15’ the APTT was 28.2 sec. He remained well and was discharged 4 days later after serial echocardiography showed no pericardial effusion. 3 days after discharged he complained dyspnea and chest discomfort again, echocardiography examination showed pericardial tamponade again. Immediate percutaneous pericardiocentesis was performed to relieve impending cardiac tamponade, 300 ml of fresh blood was drained. The test of platelet reactivity effect for Aspirin and Ticagrelor with verifynow showed, ARU 675 PRU 59. Treatment of Ticagrelor was stopped and changed to Clopidogrel. He remained well and was discharged 4 days later after serial echocardiography showed no pericardial effusion.

**Discussion:** Caution is always needed while advancing guide wires and dilating the coronary lesion either pre-stent, during or post-stent implantation, distal tip should always be visualized to prevent distal migration, dose of heparin and using the new antplatelet. Management of coronary perforation requires early detection and angiographic classification. Immediate sealing of the ruptured coronary distal vessel along with reversal of heparin anticoagulation and anti platelet.

**Keywords:** fractional flow reserve, coronary flow, angioplasty, adenosine.

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**CP 8. How to Deal With Ventilator Dependent CHF, CAD, CKD: A Case Report**

Joeristanti S, Yahya B. Juwana, Yudi Her Oktaviono

Dr. Soetomo Teaching Hospital, Surabaya, Indonesia

The presence of Congestive Heart Failure (CHF) can complicate the management of patient who undergo mechanical ventilation. Aggressive treatment tailored to the severity of CHF can facilitate weaning from mechanical ventilation.

A case of male 63 years old admitted with recent anterospetal myocardial coronary infarction, chronic kidney disease, uncontrolled diabetes mellitus, and poor left ventricular systolic-diastolic function. Mechanical ventilation was inserted besides the treatment of acute coronary syndrome (ACS), heart failure, vasopressor, and inotropic. Weaning of mechanical ventilation had complicated process after 7 days hospitalized. Percutaneous Coronary Intervention (PCI) is performed to get the optimal cardiac revascularization in which helped the process of mechanical ventilation weaning. It took lower amount of contrast and hemodilysis after PCI was needed. Coronary Angiography revealed 3 vessel disease and PCI with 1 stent DES deployment was undertaken in the proximal left anterior descending (LAD) artery. After performing dialysis the weaning mechanical ventilation was successfully.

**Keywords:** ventilator dependent CHF, PCI in chronic kidney disease.

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**CP 7. The Role of Fractional Flow Reserve (FFR) Examination In Coronary Intervention: To Stent or Not To Stent? (A Case Report)**

Vireza Pratama

Department of Cardiology, Army Central Hospital Gatot Soebroto
Jakarta – Indonesia

Fractional Flow Reserve, or FFR, is a guide wire-based procedure that can accurately measure blood pressure and flow through a specific part of the coronary artery. FFR is done through a standard diagnostic catheter at the time of a coronary angiogram. The measurement of FFR has been shown useful in assessing whether or not to perform angioplasty or stenting on “intermediate” blockages. The point of opening up narrowings or blockages in the coronary arteries is to increase blood flow to the heart. But a number of studies have shown that if a functional measurement, such as FFR, shows that the flow is not significantly obstructed, the blockage or lesion does not need to be revascularized and the patient can be treated safely with medical therapy. Here, we report a case of mild stable angina patient with positive stress test. The angiogram showed that there was a non significant lesion at LAD. The FFR wire was advanced through the lesion and the measurement was done after intracoronary adenosine administration. The measurement showed a significant disturbance of coronary blood flow (FFR 0.78). Simple procedure angioplasty was done with a single stent implantation. The FFR measurement showed significant coronary flow improvement after angioplasty (FFR 0.95). Myocardial perfusion imaging with nuclear examination was performed 1 month after, and showed normal perfusion at LAD territory. The FFR measurement is a simple procedure to guide whether to do angioplasty or not in catheterization laboratory.

**Keywords:** fractional flow reserve, coronary flow, angioplasty, adenosine.

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**CP 9. Acute Pericarditis After Percutaneous Coronary Intervention**

Margono G. Suwandi, Nahar Taufiq

Sub Division Cardiology Intervention, Sardjito General Hospital, Yogyakarta

Coronary artery disease is a type of heart disease that we very often encounter. Globally coronary artery disease is the most cause of death at the moment until 20 years in the future. Each year about 3.8 million men and 3.4 million women died because of coronary artery disease. In 2020, coronary artery disease will be predicted to be the cause of death of 11.1 million people in the world. Patients with stable coronary artery disease who are refractory to medical treatment, indicate the need to do revascularization with both Percutaneous coronary intervention and coronary artery bypass grafting. Percutaneous coronary intervention efficacy as an additional medical therapy to patients with stable coronary artery disease has been shown from some random controlled trials, meta-analysis, and registry. Post cardiac injury syndrome is a clinical condition, happened as a complication of heart surgery or infarct myocard. Post cardiac injury syndrome, also known as pericardiotomy syndrome or Dressler syndrome. This condition is indicated from inflammation on pericardium, pleura, and lung parenchyma after heart injury. However, post cardiac injury syndrome after percutaneous coronary intervention is rare. This case report is intended to focus on post cardiac injury syndrome after elective percutaneous coronary intervention to patients with stable coronary artery disease.

**Keywords:** coronary artery disease, percutaneous coronary intervention, post cardiac injury syndrome.
Balloon rupture is an in-frequent complication of cardiac catheterization that can lead to vessel injury. Balloon angioplasty in calcified coronary lesion may have a lower success rate and increases complication. This case required advanced technical strategies and devices in interventional cardiology. We present a case of heavy calcified coronary lesion in LAD that was not resistant to high pressure inflation of conventional, non compliant balloons and cutting balloon but the inflation also results in balloon rupture. The first balloon became fracture and entrapped in LAD. The fractured balloon could be removed using second balloon inflation in LCx. The angioplasty balloon was successfully performed after rotational atherectomy by rotablator and successfully continued by implantation stent DES.

**Keywords:** balloon rupture, entrapped balloon, heavy calcified lesion, rotational atherectomy.

**Case:** We present a case from Dr Sarjito Yogyakarta Hospital. Male 59 y.o, with chief of complain of chest pain and risk factor of hypertension and smoking (2 pack/day). He had a history of acute coronary syndrome (ACS) without revascularization. The Vital sign showed, a blood pressure of 145/90 mmHg and a heart rate of 55x/m, with an ECG of Horizontal ST depression and anterior lead. From the Laboratory finding, the troponin I was 5.9. We diagnosed with Non ST-Elevation Myocardial Infarction TIMI Risk 4/7 GS 83. After two days in the ICCU we send the patient to the cathlab to undergone coronary angiography stand by PCI. The angiography showed, LM normal, LAD proximal stenosis 80% at bifurcation of D1 with irregular angiography and serious dissection. We decided to change the guiding with AL 1 and JL 3.5/6F and still not supportive. We evaluated again with GC XB and did an anchor wire technique to LAD with miracle wire and pilot 50 to septal branch. We did postdilatation again with compliance balloon ruyjin 1.5/15 at burst and then compliance balloon maverick 2.0/15 at 17 atm (burst) in stent at proximal LAD. Continued with post dilatation using NC balloon maverick quantum 2.75/8 but this balloon still couldn’t pass through it. And then we tried again postdilatation with compliance balloon maverick 2.0/15 at from burst (17 atm) until 21 atm. And then we changed the balloon with NC maverick quantum 2.75/8 atm. it could pass through the stent and deployed at 20 atm. Angiography evaluation showed stent patent well deployment, without residual stenosis and dissection, TIMI flow 3.

**Discussion:** At higher pressures, of relevance for PCI, distensibility was unpredictable. Very high stent inflation (≥22 atm) pressures may cause stent edge dissection, coronary rupture, media and intima rupture leading to an increased inflammatory response and higher restenosis rate. Optimal stent inflation pressure of 20–21 atm during PCI a lower risk of stent thrombosis and restenosis.

**Conclusion:** If we dealt with HCCL it is important to choose suitable GC with anchor or buddy wire and make sure optimal predilatation before stent implantation. Predilatation and postdilatation preferred to use NC balloon, and if we inflate with maximal pressure at 22 atm to prevent coronary perforation or serious dissection.

**Keyword:** Stent deployment, High calcified coronary lesion.
CP 13. Left Main Stenting Post Bentall Procedure and CABG with Acute Grafts Closure in Left Coronary Cusp Aneurysm Causing LM Occlusion

Wishnu Aditya Widodo, Jack Tan, Lim See Lim
National Heart Center Singapore

A 61-years old female was referred to our center for aortic root aneurysm. She had history of heavy, tearing chest pain two weeks before hospital admission. Her ECG showed old anterior MI. Coronary angiography showed a s initialise values in left coronary cusp with tight occlusion in ostial LM. She underwent Bentall procedure and CABG at once. Two vein grafts were implanted to distal LAD and OM1. One-week post procedure her BP went down and there was a drop of her LV ejection fraction. Coronary CT Scan with contrast showed both vein grafts were totally occluded. Urgent PCI was performed with difficulties engaging guide catheter to LM because changed position of ostial LM due to coronary repositioning in Bentall procedure. Eventually wiring to LAD and LCx were able to performed and LM stenting from ostial to LAD-LCx bifurcation was successfully done with Mini Crush technique. After PCI, her hemodynamic condition was improved and IABP was successfully weaned off. Patient made a gradual recovery and was able to be discharged.

CP 14. Dual CTO Intervention in A Single Procedure, Why Not?

Irwan M. Loebis, Teddy A. Sihite, A. Fauzi Yahya
Padjadjaran University, Hasan Sadikin Hospital, Bandung, Indonesia

Percutaneous Coronary intervention (PCI) on chronic total occlusion (CTO) lesions remains one of the most important challenges for intervention cardiologist. The benefit of CTO recanalization seems to be more evident in patients with concomitant multivessel coronary artery disease. In these patients, the impact of complete revascularization is associated with higher rate of survival and survival free from myocardial infarction. Multiple CTOs (≥2) is found in 15-20% of CTO patients. Several considerations including assessment risk/benefit for patient, contrast, radiation exposure, procedural anticoagulation also optimal technique and strategies are key elements of successful CTO-PCI.

Case Report: A 61-year-old male presented to our hospital with chief complaint of chest pain on exertion. He was a smoker, hypertensive and known dyslipidemia. ECG showed lateral ischemia. Echocardiography revealed ejection fraction of 44%, and eGFR was 48. Diagnostic coronary angiography revealed a CTO lesion in the proximal segment of LAD and ostial segment of LCx with good visualized collaterals to both distal parts of CTOs. PCI was performed electively 2 months after initial diagnostic angiography. A 7 Fr AL1 guiding catheter was engaged into the LCA and a 6 Fr JR 3.5 was introduced into the RCA. A Conquest pro guidewire with a Corsair 135 microcatheter was introduced into the ostial LCX. Penetration of the proximal cap of the CTO was successful using this stiff wire. Multiple dilations with 2.5x15 mm balloon were performed. One sirolimus eluting stent 3.0x24 mm was implanted at the ostial to proximal segment of the LCx. We continue the procedure to the LAD lesion. A Fielder XT guidewire was chosen with a Corsair 135 micro catheter, and successfully crossing the CTO lesion. Multiple dilations with 2.5x15 mm balloon were performed. One bioilmus eluting stent 3.0x33 mm was deployed in the proximal segment of the LAD. A final coronary angiography revealed an excellent result of the LAD and LCx. Contrast used was 375 cc of iso-osmolar non ionic medium. Radiation exposure was 4.2 Gy. The patient was discharged 2 days after the procedure without symptoms. Proper pre-procedural planning is key to ensure high success rate and avoid unnecessary risk in executing PCI for multiple CTOs.

CP 15. Bifurcation Simplification

M. Yusuf Alsagaff
Cardiology and Vascular Medicine Department, Airlangga University Hospital, Surabaya Indonesia

Lesions located at coronary artery bifurcations represent one of the challenging areas in interventional cardiology. Although the advent of drug-eluting stents (DES) holds promise for preventing restenosis, the optimal technique for treating coronary bifurcations is as yet unknown. One way to treat bifurcation is to perform provisional side branch stenting, which is believed not only simplify the approach in bifurcation but also has long-term comparable clinical results to those of non-bifurcation lesions. Certain rules and tricks have been developed to ascertain the optimal result of provisional stenting, including pre-dilatation, proximal optimization technique, rewireing, inflation sequence and when side branch should be treated.

Case presentation: A 61 years old male, 92 kg in weight and 180 in height, with hypertension, dyslipidemia and history of smoking had a chief complaint of chest pain CCS II over the last 1 year. Additional evaluations showed unremarkable findings. Diagnostic Coronary Angiography revealed CAD 1 VD, bifurcation LAD-D1 (Medina 1-1-1). Having the informed consent obtained, PCI was scheduled 1 week afterwards.

The patient was taken to the cardiac catheterization laboratory in a fasting state, was prepped and draped in sterile fashion. A 7 fr Sheath was placed in right femoral artery. The plan were to perform provisional stenting followed by modified elective T stenting. Selective (RAO CRA projection) left coronary angiogram was performed using 7 Fr Extra backup 4.0. Soft wires were advanced into distal LAD and D1. Pre-dilatation at LAD was done using 2.5 x 12 mm balloon at 18 atm. Sirolimus eluting stent 3.0 x 19 mm was deployed in LAD at 10 atm (Nominal). Guide wires were re-cross. Compromised ostial D1 was pre-dilated with 2.5x12 balloon at 8 atm several times (Protruding to LAD). Post dilatation was performed at LAD Stent using its balloon inflated to 16 atm, the balloon was then placed at mid LAD deflated. A 2nd drug Eluting Stent 2.5 x 9 was placed at D1, balloon at mid LAD was placed within stent and inflated to 8 atm. While the balloon being kept inflated, 2nd stent at D1 was retracted till it was detained by balloon at LAD (Modified Elective T Stenting). The 2nd Stent then was deployed with a pressure of 9 atm. The procedure was then finalized with kissing balloon 10 atm at LAD and 9 atm D1. Angiography result was good.

CP 16. Broken Balloon Segment in The Coronary: Retrieving Without Snares

Siska S. Danny, MA Basalamah, Isman Firdaus, Doni Firman
National Cardiovascular Center Harapan Kita Jakarta – Indonesia

42 yo male with chronic stable angina underwent elective percutaneous coronary intervention. Previous coronary angiography revealed single vessel disease with a 90% long stenosis from the ostial to the mid segment of LAD. Risk factors were diabetes, adequately controlled with metformin. Left ventricular function and renal function were within normal limits. PCI was initially performed at another hospital with femoral approach, using an XB 3.5/7F GC. Wiring with Runthrough NS Floppy.
Predilatation was performed using a 2.0/20 balloon. Insertion of a 3.0/33 mm DES to the LAD met resistance probably due to calcification in LAD and it was decided to implant the stent at LM to LAD. After stent implantation the stent balloon could not be retrieved and forceful retrieval resulted in balloon segment fracture inside the coronary. The patient complained of chest pain and subsequently referred to our center for further management and emergency surgery if necessary. Patient arrived promptly at our hospital and rushed to the cathlab. He was alert, complaining mild chest discomfort only. BP was 115/65 and HR 85 bpm. The GC was still in place trough the sheath in femoral artery. Fluoroscopy revealed the GC was still engaged in the LM, fragmented balloon segment in LM-LAD with the broken proximal segment was in the GC. We inserted a 2.5/20 mm non-compliant balloon into the GC without wiring until the distal tip of the balloon reached the distal end of the GC and inflated the balloon at high pressure up to 20 atm. Then we pulled the whole system (GC+wire+broken balloon+the NC balloon) with fluoroscopy guidance and we could see the whole system was retrieved completely. Recanalization of LCA with another XB 3.5/6 F was followed by coronary angiography of LCA showed the stent was in place in LM-LAD without any apparent thrombus or dissection, TIMI Flow III to the distal LAD. It was decided not to intervene LAD further and planned to have repeat coronary angiography afterward. Patient was discharged on day 4 with good condition.

**CP 17. A Serial Case: Catheter Induced Coronary Artery Dissection**

I Made Junior Rina Artha

Departement Cardiology and Vascular Medicine Faculty of Medicine
Udayana University
Integrated Heart Care, Sanglah General Hospital
Bali, Indonesia

**Objective:** Catheter induced coronary dissection is an uncommon complication of percutaneous coronary intervention and cardiac catheterization. The incidence of iatrogenic coronary artery dissection remains unknown.

**Method:** We report serial case, first a 49 year old male with a history of dyslipidemia and smoker was admitted with history acute Inferior MCI 3 months ago, coronary angiography reveal total occlusion mid part of right coronary artery, distal from left coronary artery and normal left coronary artery. Second case a 60 year old female with a history of dyslipidemia and hypertension was admitted with stable angina pectoris, angiography showed 80% stenosis at mid part of right coronary artery and normal left coronary artery with patent stent. Result. First case, the RCA was engaged with 6 Fr Amplatz Left 1 (AL1) guiding catheter, the XI-A guide wire easily crossed the lesion and we implanted stent Azule 3.0/18 mm at mid part, it showed deep intubations of catheter within coronary artery. When we released AL1, it showed spiral dissection from ostial to mid part of RCA (Picture 1), recanalization RCA with JR 3.5/6F, and wiring to distal RCA with Sion Blue, and we implanted stent Omega 3.5/32 mm overlap with previous stent. Second case, direct stenting percutaneous coronary intervention was the preferred treatment strategy at mid part RCA, RCA was cannulation with JR 3.5/6F and direct stenting with Cre8 2.75/25 mm, it showed spiral dissection from ostial to mid RCA (picture 2) just before we implant stent, and we deployed the stent at mid part of RCA. Unfortunately, we pulled out the wire and tried to rewire to distal RCA with guide wire Sion Blue. We also made sure with balloon if the wire was inside the vessel and the stent, then implanted stent Cre8 3.5/31 mm at Proximal part of RCA overlapping with previous stent.

**Conclusion:** The procedural result was excellent with TIMI-3 flow distally, no residual stenosis and resolution of the patients chest pain and ECG Changes, and the patient was discharged the following day. we successfully treated catheter induced coronary artery spiral dissection.

**Keywords:** percutaneous coronary intervention, chronic total occlusion, spiral dissection, catheter induced dissection.

**CP 18. Negative Pressure for Endartery Coronary Perforation**

Budi Satriyo, Yudi Her Oktaviono

Dr. Soetomo Teaching Hospital, Surabaya, Indonesia

Despite its numerous benefits, serious and potentially life-threatening complications of PCI may occur including coronary artery perforation. The reported incidence varies from 0.1% to 3%. It has otherwise serious consequences resulting in an 8% incidence of death, an 18% incidence of myocardial infarction and a 13% need for emergency surgical management. We described a case of guidewire-induced Ellis type 3 coronary artery perforations successfully managed by giving negative pressure within the perforation site through microcatheter. These technique can be an effective and alternative approach in the management of coronary artery perforation. There was 58-years old man with stable angina. Risk factors are hypertension and smoking. He has undergone PCI in RCA 1 months ago and was planning to undergo staged PCI. The angiography showed CTO at proximal LAD; stenosis 75% and 70% in proximal and distal LCx, respectively; RCA showed stented vessel without any significant restenosis. Initially, we tried to penetrate the CTO at LAD by using guidewire Fielder FC which was unsuccessful. Thus, we directly change to guidewire Conquest Pro and finally succeed to penetrate the CTO. Then, contrast was injected and we found perforation streaming in LAD (Ellis Type III). We managed this patient by delivering negative pressure through microcatheter while preparing fat emboli in case this alternative procedure unsuccessful. After giving negative pressure (2-3 atm for 3-5 minutes), the perforation was sealed and no residual streaming.

**Keywords:** Percutaneous coronary intervention (PCI), coronary perforation, negative pressure.

**CP 19. Fracture of Stent Shaft Delivery System: A Rare Complication**

Sunanto Ng, Antonia A. Lukito

University Pelita Harapan / Siloam Hospital Lippo Village, Banten, Indonesia

A 54-year old man admitted for an elective percutaneous coronary intervention (PCI). He has angina on exertion CCS class II. He had undergone PCI of the right coronary artery (RCA) and left circumflex artery (LCx) one month previously. Subsequently, he was planned for staged PCI for left anterior descending (LAD). His risk factor for coronary artery disease was hypertension. He had a non ST-elevation of myocardial infarction 5 month previously. Advise for bypass surgery was refused. Procedure of PCI was done using radial approach and a 6 Fr vascular sheath. An extra back-up guiding catheter was used. Angiography revealed moderately calcified lesion at the proximal LAD with diameter stenosis of 80-90%. After insertion of guidewire Sion Blue, lesion was pre-dilated with a semi-compliant balloon 2.5/15 at 6-8 atm. A drug-eluting stent (DES) Biomatrix Flex 2.75/33 was attempted to inserted through the lesion, but failed. A second balloon predilatation was attempted at higher pressure 12 atm. A dissection was occurred at distal part of lesion, thus a bare metal stent Omega 2.75/16 was inserted and implanted there to cover the dissection.
CP 21. Primary PCI with Double Infarct Related Artery Which one in Revascularisation

Ramang Napu1, Sunarya Soerianata2
1Undata Hospital, Palu, Central Sulawesi, Indonesia – Alumni of Interventional and Intensive Care Fellowship, National Cardiovascular Center Harapan Kita, Jakarta, Indonesia
2National Cardiovascular Center Harapan Kita, Jakarta, Indonesia

Primary percutaneous coronary intervention (PPCI) is the preferred strategy for acute ST-segment elevation myocardial infarction (STEMI), with evidence of improved clinical outcomes compared to fibrinolysis therapy. However, there is no consensus on how best to manage multivessel coronary disease detected at the time of PPCI, with little robust data on best management of angiographically significant stenoses detected in non-infarct-related (N-IRA) coronary arteries. In most cases of acute ST-segment elevation myocardial infarction, only 1 epicardial artery contains an occluding thrombus, commonly referred to as the “culprit” artery. Rarely, however, patients present with >1 acutely thrombosed coronary artery (i.e., “multiple culprits”).

Objectives: The purpose of this presentation is to discuss the case of primary PCI in multiple culprit lesion what we should do for the optimal revascularization with good results.

Case Illustration: A male, 36 years old, with the IMA Inferior and anterior on set 5 hours, Killip IV, IABP, Cardiac Arrest on Table, has been performed primary PCI with back up TPM and IABP. Evaluation of early angiography showed CAD 3 VD with LM disease. 1 DES installation has been done in the RCA with good results hemodynamically stable after the action. Patients discharged after twelve days of treatment.

Keywords: Anterior Inferior ST IMA, TAVB, Cardiac Arrest, PPCI 1 DES in RCA.

CP 22. Complete Coronary Revascularization During Primary PCI

Infan Ketaren, Doni Firman, Sunarya Soerianata
National Cardiovascular Centre Harapan Kita Jakarta, Indonesia

Patient with STEMI treated with primary PCI multivessel disease is present in about 40-50% of hemodinamically stable patients, and current guidelines recommended only infarct artery only PCI in patients with multivessel disease, owing to lack of evidence with respect to preventive PCI. Meta-analyses and observational studies show mixed results for total vs lesion only revascularization.

A 62-years old male presented to the emergency department with complaint chest pain 4 hours. Risk factor was hypertension and dyslipidemia, we diagnosed the patient with acute extensive anterior STEMI 4 hour onset, KILLIP I, TIMI 4/14. Coronary angiography showed a 80% lesion in the mid left anterior descending artery, which was thought to be the culprit lesion. There was also 80% stenosis in proximal segment left circumflex artery. The patient underwent successful PCI as complete coronary revascularization with drug eluting stent to left anterior descending lesion and left circumflex artery lesion.

We present this case to emphasize the importance of complete revascularization during primary PCI. However, as recommended by current guidelines, the culprit lesion only should be attempted during the index primary angioplasty procedure and complete revascularization should be deferred to be achieved later on during staged elective procedure. The present study strongly suggests that complete revascularization should be pursued in STEMI patients with multivessel disease to reduced the risk of adverse cardiovascular event.

Keywords: ST elevation myocardial infarction, primary PCI, culprit lesion, complete revascularization.
CP 23. An Urgent Percutaneous Coronary Intervention for Nonagenarian: A Case Report

Prihati Pujowaskito1, I Gde Runus Suryawan1,2
1Surabaya ISIC Fellowship Program
2Dr Soetomo Teaching Hospital, Surabaya, Indonesia
3The Surabaya National Hospital, Indonesia

The elderly have more cardiovascular risk factors and a greater burden of ischaemic disease than younger patients needing percutaneous coronary intervention (PCI). Unfortunately, they have historically been much less likely to receive coronary revascularization. A 98-year-old female suffered from high risk non-STelevation acute coronary syndrome and underwent urgent PCI of the right coronary artery (RCA). Right femoral artery approach with 7 F sheath then must be changed into long sheath (45 cm) -7F due to tortuousity of femoral artery, iliac artery and the aortic. Diagnostic catheter JR 4.0 and 5.0/6F failed to engaged, but successfully engaged with guiding catheter JR 4.0/6F with PCI wire (Runthrough). Two DESs successfully implanted on stenosis at ostial and mid RCA. Since then no chest pain and hemodynamically stable, she discharged 3 days after intervention. We assessed that ischaemic burden of this patient might be useful when deciding invasive management. Several factors should be take in to consideration, including: concomitant disease, radial or femoral access, vessels tortuosity, vessels calcification, DES or BMS, bleeding complication.

Indeed, when doing PCI on the very elderly, functional outcomes were more relevant to assess the effects of revascularization treatment than death or myocardial infarction. © 2015 Indonesian Society of Interventional Cardiology Annual Meeting – Indonesia Live.

Keywords: Percutaneous Coronary Intervention, Nonagenarian.

CP 24. Early PCI In Patient with Acute Anteroseptal STEMI with High Thrombus Burden Palembang Experience

Adrian Masno, Mangiring PL Tonuan
Mohammad Hoesin General Hospital, Palembang, South Sumatera

A 59 year old man was admitted with a day history of severe chest pain. He had no previous history of chest pain before. His CAD risk factors was smoker, no history of DM or hypertension. The ECG revealed 1 mm of ST segment elevation at V1 to V4. Serum CK was 991 ng/L and CKMB was 152 ng/L. He was treated with Clopidogrel, Enoxaparin, oral nitrate, Bisoprolol, Valsartan, and Simvastatin. Serial ECG showed increase ST segment elevation, at V1-V5, I, AVL, V5-V6, He underwent early PCI. Angiography showed mild diffuse disease in the RCA. The LAD thrombosis in myocardial infarction (TIMI) flow grade was 1 (infarct related artery) with large thrombus at mid part. TIMI 0/1 flow after passing with guidewire. Guiding catheter 6F BL 3.5 was used. Large thrombus burden was evident. Thrombectomy was performed with Thrombus 6F catheter . The result was TIMI 0 flow with a large residual thrombus. POBA using Trek balloon 2.25x15 mm and several thrombus aspiration still can’t restore the flow. LAD was TIMI 0. We decided to stop the procedure and patient was moved to CVCU. At 6th day, patient had two episodes of cardiac arrest with pulseless VT and we performed CPR. Defibrillation with 200 J biphasic was given and rhythm back to sinus.

Second PCI was performed next day. Using Transfemoral approach with BL 3.5/6F guiding catheter, angiography showed total occlusion of LAD. An Asahi Sion Blue wire can’t cross the lesion. We decided to change the guidewire with Pilot 50 with microcatheter Finecross, wire can cross through the lesion. Several predilatation with Runjir 1.25x12 mm and minitrek 2.0x15 mm at mid LAD. The result was TIMI 1-2 flow with thrombus at mid LAD. Thrombus aspiration with Thrombustor 6F can’t eliminate the thrombus. We decided to put the stent with risk of thrombosis. A Xience V 2.75x23 mm was placed at mid LAD and flow to distal LAD improved but the thrombus migrate to distal stent. Second stent was deployed at distal stent with Xience V 2.5x15 mm. Post-dilatation was performed with stent balloon up to 12 atmospheres. Patient was discharged 3 days later.

Summary: A successful PCI was performed in patient with Acute Anteroseptal STEMI with high thrombus burden.

CP 25. Primary or Chronic Total Occlusion PCI in STEMI

Dian Zamroni, Taofan S, Doni Firman, Sunarya Soerianata
Cardiology and Vascular Medicinie Department
Medical Faculty University of Indonesia
National Cardiovascular Center Harapan Kita Jakarta

Introduction: A myocardial infarction (heart attack) occurs when the coronary artery is totally blocked by a clot (thrombus) which forms over the fatty deposits in the wall of the artery. If the blockage persists the region of the heart muscle supplied by that artery will progressively die (myocardial necrosis). This syndrome is referred to as ST elevation myocardial infarction (STEMI), because usually this pattern (elevation of the ST segments) is seen on the ECG. The use of primary PCI has increased significantly in recent years because of widespread research showing it to be more efficacious and cost effective than drug treatment (thrombolysis). In patients with STEMI, recommend that primary PCI treatment should be performed within 90 minutes of arrival of the patient at the PCI centre (door-to-balloon time). PCI is used to manage angina and acute coronary syndromes in three ways, alleviate the symptoms of angina, prevent future myocardial infarction, restore coronary blood flow during a heart attack.

Case Presentation: Reporting one case of 44 years-old male with chest discomfort in accordant with myocardial infarct 6 hours before admission to hospital. About 3 hours earlier the patient were admitted to Cilegon Hospital and diagnosed with ST elevation myocardial infarct (STEMI) due to his chief complaint and an elevation of ST segment at the anterior lead on his ECG image (figure 1). He was given 320 mg aspielt, 600 mg Clopidogrel, 10 mg simvastatin, and 20 microgram/minute nitroglycerin. After the initial therapy the patient was referred to National Cardiovascular Center Harapan Kita (NCCHK). Risk factors for this patient was hypertension, smoking, and dislipidemia. At NCCHK, the chest pain still persist, and the ECG showed ST segment elevation at lead V1-V5, I, AVL (figure 2). A primary PCI was decided to be performed, with access from right radial artery. The angiography diagnostic showed a total occlusion at left anterior descending artery (LAD) (figure 3), 70-80% stenosis at proximal and 70% multiple stenosis at right coronary artery (RCA) (figure 4). PCI was performed on LAD with EBU 3,5/6F guiding catheter with double wires to LAD and intermediate artery, but it turned out that the wire to LAD cannot went through the lesion (figure 5). The guiding catheter was replaced with JL 4/6 F, and the wiring once again performed to LAD until about 16 minutes, and finally it went through the lesion. A 1,25 x 15 mm balloon was inserted and inflated in ostial LAD by 14 atm insufflation (figure 6). Afterward, 2,0 x 15 mm balloon was inserted and inflated by 4 -12 atm insufflation from distal to ostial LAD (figure 7). Later on, one DES 2,75x 24 mm stent was inserted in ostial- proximal LAD with good result, TIMI 3 flow (figure 8).

Conclusions: Patient with a 6 hours onset STEMI with a correspond ECG image evolution was performed a primary PCI with a 73 minutes door-to-balloon time. During the procedure, there was difficulty to penetrate the lesion, which theoretically could be done easily at 6 hours.
onset. The difficulty to penetrate the lesion might be due to tight chronic stenosis which became an acute thrombosis, so that a CTO lesion opening technique is applied in the intervention.

Keywords: Electrocardiogram; STEMI; Primary PCI; CTO.

CP 26. Primary PCI on Multivessel Disease Inferior STEMI: Culprit and Nonculprit Lesion
Ilham Uddin
Department of Cardiology and Vascular Medicine, Faculty of Medicine, Diponegoro University
Dr. Kariadi Central General Hospital, Semarang, Indonesia

Introduction: The objective of primary percutaneous coronary intervention (PCI) is to restore epicardial flow and myocardial perfusion in culprit vessel. Approximately 40-65% of patients with STEMI have multivessel disease (MVD), which is associated with worse clinical outcome as compared with single-vessel disease. MVD have in addition to the culprit lesion, 1 or more significant lesions in nonculprit vessels. Current guidelines do not recommend PCI for nonculprit vessels, unless there is hemodynamic instability. It remains uncertain whether treatment of nonculprit vessels is required and when it should be performed in patients presenting with STEMI.

Objective: To present a case of PCI on Inferior STEMI; at culprit and non-culprit lesion.

Case Illustration: A 47-year-old female came with severe chest pain typical infarction since 9 hour before admitted. She had moderate angina CC S-II-III since 6 month and relieve with sublingual nitrat. CAD risk factors were Diabetes, Hypertension, Dyslipidemia and Obesity. ECG showed ST elevation in lead III, aVF, and aVR; QS in lead II, V2-4, I, aVL. She suffering Inferior STEMI onset 9 hours Killip I, DM type II and purposed for Primary PCI. The coronary angiography showed thrombus on proximal LAD (Culprit lesion), CTO on distal LAD and CTO mid RCA. Two DES were implanted on LAD, and one DES was implanted on mid RCA with TIMI Flow III. Treating nonculprit lesions together during STEMI has potential to achieve optimal result.

Conclusion: PCI on STEMI Inferior onset 9 hours. Two DES were implanted on LAD, and one DES was implanted on mid RCA with 0% residual stenosis and TIMI Flow III.

Keywords: PCI, Inferior STEMI, nonculprit lesion, MVD.

CP 27. Early Stent Thrombosis
Cut Aryfa Andra, Isfauuddin N.Kaoy
Cardiology Department of Medical School Sumatera Utara University/ Adam Malik General Hospital, Medan, Indonesia

Male, 47 y.o came with stable angina, post infarction 3 months ago. Cardiovascular risk factor was smoking. Physical examination was essentially normal with no sign of heart failure. ECG showed Q5 V1-V5. Chest roentgenogram showed no evidence of heart failure. Echocardiography showed LVEF 50% and hypokinetich in anterior wall. Coronary angiography showed 1 vessel disease, total occlusion in proximal LAD (Figure 1a) Initially, we inserted GC XB 3.5 6Fr to LMCA. Tried to penetrate the occlusion by using GW Sion Blue with back up Sapphire Balloon 1.0x10 mm. Predilatation from distal to proximal. Balloon was changed with Powerline Balloon 2.0x15mm, predilatation was repeat. Contrast was injected and showed lesion in proximal LAD. Stent BMS Cobalt Chromium 3.0x29mm was inserted. Post dilatation using NC Balloon 3.0x15mm. TIMI 3 flow (Figure 1b,1c). Patient was discharged on the next day. Four days after procedure, patient came to emergency unit with severe chest pain since 3 hours. BP 90/60 mmHg, HR 120 x/i. ECG showed ST elevation V1-V6. Angiography was repeat and the result was total occlusion in proximal LAD again (Figure 2a). GC XB 3.5 6Fr enganged and GW crossed. Tried to suction the thrombus by using 6 Fr Thrombust II catheter but unable to aspirate the thrombus. Predilatation by using Powerline Balloon 2.0x15mm. GP Ib/IIa was given intracoronary using thombosuction catheter with TIMI 2 flow (Figure 2b). We decided to put stent BMS Cobalt Chromium 3.0x19mm in proximal LAD (Figure 2c), TIMI 3 flow (Figure 2d,2e). On the same day, blood test for responsiveness to antiplatelet drugs was test. Result for clopidogrel was >230 PRU, aspirin was <550 ARU. Patient was discharged on day 4 with therapy ticagrelor, aspirin, statin and beta blocker.

CP 28. Aneurysm Coronary Artery Conservative Treatment After Fibrinolytic Therapy
Febtusia Puspitasari
Premier Bintaro Hospital, Tangerang, Indonesia

A 41-year-old male presented to the emergency department with Acute Inferoposterior STEMI Killip I onset 1 hour. Initial electrocardiogram demonstrated ST elevation at lead II, III, aVF, V7-9 and ST depression at lead V2-4, I, aVL. Medical treatment was started including loading dose of Ticagrelor 180 mg, ASA chewing 160 mg, Rosuvastatin 5 mg sublingual, Rosuvastatin 5 mg and fibrinolytic therapy with Alteplase. It was successfully fibrinolytic treatment. Coronary angiography was performed the day after and revealed aneurysm of left anterior descending artery, left circumflex artery, proximal right coronary artery. Mid right coronary artery was totally occluded. PCI was not performed at mid RCA due to limited of insurance coverage. The patient was discharged with double antiplatelet drugs and was planned to perform re-coronary angiography 3 months later.

CP 29. Total Occlusion at Side Branch After Intervention in Bifurcation Lesion During Primary PCI
Rendi Asmara1, Nahar Taufiq2
1Fellowship of Cardiology Intervention, Sardjito General Hospital, Yogyakarta, Indonesia
2Cardiology Interventionist, Sardjito General Hospital, Yogyakarta, Indonesia

Background: Bifurcation lesion is a condition where a coronary artery narrowing occurring adjacent to, and/or involving the origin of a significant side branch (SB). Of course we do not want to lose a significant SB during revascularisation. Approximately 20% of percutaneous coronary interventions (PCIs) are performed to treat coronary bifurcations where percutaneous coronary interventions in bifurcation lesions have been associated with lower procedural success rates and worse clinical outcomes than non-bifurcation lesions.

Case: A 69 years old male patient came to the emergency room referred from another hospital with chief complaint of typical chest pain that occurred since seven hours. At the previous hospital, patient had cardiac arrest two times with ventricle fibrillation and pulseless ventricle tachycardia but could be treated and returned to spontaneous circulation. He was sent to our hospital with diagnosis of acute coronary syndrome and already got initial therapy. Patient was an active smoker without any other risk factors. At our hospital, the patient’s vital signs were normal with blood pressure 118/80 mmHg and heart rate was 64 beats per minute. The physical examination was normal, and laboratory findings were still in normal limits.
 except for the cardiac enzymes. The electrocardiogram showed ST segment elevation at V1-V6, I, and aVL. So, the patient was assessed with STEMI anterolateral with seven hours onset and complication of ROSC after cardiac arrest and planned to undergo primary PCI. From the diagnostic coronary angiography showed total occlusion at ostial left anterior descending (LAD) artery where other arteries were still normal. We cannulated LCA with XB guiding catheter and inserted hydrophilic coating guide wire to LAD and the wire could go through the occlusion and tip wire was put at distal LAD. Then, we predilated the lesion with balloon 2.0/15 mm at 6 atm. The evaluation of angiography showed good flow of the LAD but there was shifting plaque to distal left main (LM), so we inflated the balloon at bifurcation with 6 atm. Suddenly the patient got acute lung oedema (ALO) and from the evaluation of angiography showed total occlusion at proximal left circumflex (LCx) with residual stenosis 70% at proximal LAD. We treated ALO with diuretic iv injection and nitroglycerin iv drip. For the problem in the coronary artery, we decided to deploy drug eluting stent (DES) 3.5/36 mm from ostial LM until proximal LAD and another DES (3.0/12 mm) was put overlap with the first stent. We postdilated the overlapped site with ex-stent balloon until 12 atm. Then, we rewired another hydrophilic coating guide wire to LCx. After putting the tip wire at distal LCx, we predilated the lesion with 2.0/15 mm continued with bare metal stent (BMS) 2.75/24 mm at ostial LCx with the provisional technique. After that, we performed kissing balloon technique at bifurcation. From the angiography evaluation, we could see there was TIMI 3 flow without coronary dissection nor significant residual stenosis. The ALO became much better. The patient was sent to ICU for further evaluation and therapy.**Discussion:** We did not use double wire technique to treat the bifurcation lesion at the first time because the occlusion rate for side branch with minimal disease was only < 4%. We attempted to treat lesion of LAD because the culprit lesion of this patient was that lesion related with myocardial infarction at anterior region. After ballooning at bifurcation, we saw that there was total occlusion at LCx. The possible mechanisms were plaque shifting from main branch, vasoospasm of the side branch, or carina shifting. For the bifurcation lesion that occurred, we decided to use the provisional stenting technique because it was the preferred technique for the majority of bifurcation lesions. We deployed stent at side branch because we could see that the lesion at side branch was severe without any flow. **Conclusion:** We would rather use double wire technique to treat the bifurcation lesion to prevent the possibility of shifting plaque to the side branch. The provisional stenting technique was the preferred technique for bifurcation lesion. We must stay alert for any complications that could happen during the intervention at this kind of lesion. **Keywords:** bifurcation lesion, shifting plaque, primary PCI.

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**CP 30. A Serial Case:**

My First Consecutive Primary PCI Experience

Puti Sarah Saus, Nahar Tautiq

Division of Cardiology Intervention, Sardjito General Hospital Yogyakarta, Indonesia

**Objective:** As a new fellow (2 months in training) dealing with primary PCI is very challenging. Precision in choosing guide catheter, wire and stent selection is a learning process. Deciding to open IRA or non IRA in multivessel disease is also an obstacle. The most challenging of all is stress management and immediate yet accurate respond to the problem. And we performed consecutive primary PCI in the same day.

**Method:** We report serial cases from Sardjito Hospital. The first case was male 52 yo male with a chief of complaint of heavy burden on the chest since 7 hrs prior to admission. He was referred from a district hospital. His risk factor was hypertension & smoker. His vital sign was stable with blood pressure of 128/76 mmHg & heart rate of 88 x/min. His ECG shown ST elevation in anterior lead, with an elevated CKMB 223 & Trop 1:10.05mcg/l. We diagnosed the patient with acute anterior MCI onset 7 hours, Killip I, so we attempted primary PCI. We started with inserting diagnostic catheter TIG 5F and cannulated LCA and RCA. The angiography revealed a total occlusion at the mid LAD after D1 (culprit lesion) and 80% stenosis proximal of the RCA. The second case was male 58 yo male with a chief of complaint of chest pain 3 hrs prior to admission. He was also referred from a district hospital. His risk factor was hypertension, displidemia & smoker. From the physical examination we found a blood pressure of 100/60 mmhg & heart rate of 65 x/mnt, with warm extremities. The ECG was junctional with ST elevation in inferior, dextra, posterior & anterolateral and ST depression in high lateral. Lab result shown,CKMB 21 & trop I 0.1. We diagnose the patient with acute inferior, posterior RV infarct onset 3 hours, Killip I. We conducted a primary PCI.

**Result:** For the first case we decided to open the LAD as the culprit lesion with guiding catheter XB3.5/6 F. the catheter was advanced to LCA and continued wiring with guide wire pilot 50 through distal LAD. A Predilation at the target vessel with 2.0/25 mm Ryuquin ballon was done and the ballon was inflated at 6 atm twice, then we advanced BMS stent (Omega 2.75/26mm) at mid LAD, deployed at 14 atm. Angiography evaluation of the LCA shown a residual stenosis proximal of the stent, and decided to stent the lesion and overlap it with the first stent using BMS (Omega 3.0/24mm) deployed the stent at 14 atm. Angiographic reevaluation was done, there was still residual stenosis proximal of the second stent and we inserted another stent BMS 3.0/18mm proximal and overlapping with the second stent, deployed at 14 atm, continued with post dilatation at 16 atm several times. Following the first case, we proceed to the second case by inserting diagnostic catheter TIG 5F to the RCA and LCA and found a subtotal occlusion at proximal RCA as the culprit lesion. We advanced a guiding catheter JR 3.5/6F to the target vessel and wiring with guide wire pilot 50 to distal RCA. Predilation was done with Maverick 2.0/15 mm balloon inflated at 6 atm and stented the lesion with DES (biometrix 3.0/28 mm) deployed at 6 atm, undergone a post dilatation at 9 atm.

**Conclusion:** The procedural result was excellent with TIMI 3 flow distally and no residual stenosis nor dissection in both cases. The patient was in a stable condition. Primary PCI is a condition that needed immediate and accurate treatment where as a new fellow in training pressure increases drastically dealing with the condition. There are multiple factors that contribute to a successful coronary intervention, overcoming stressors besides appropriate guiding and wire selection is crucial. Not to forget deciding the lesion to intervene and stent selection is also important.

**Keywords:** primary PCI, coronary total occlusion, acute myocardial infarction, multivessel disease.

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**CP 31. PCI in Multiple Lesions with Shephard’s Crook Morphology**

A. Hanafi

Gambiran General Hospital, Kediri, Indonesia

PCI (Percutaneous Coronary Intervention) of multiple lesions at right coronary artery with Shephard’s Crook configuration have several problems, because of upward direction of the ostium artery anatomy. This anatomy makes the intervention is difficult, especially if lesion occurs at the ostium. This case report presents, that a 51 year old man was reffered from type B hospital with stable coronary artery disease and had undergone PCI on the Right Coronary Artery. From the angiography, it seemed that the Right Coronary Artery had the Shephard’s Crook morphology with multiple lesions (70% ostial proximal, 80% mid, total occlusion distal) and 70% stenosis at the proximal left coronary artery. This Shephard’s Crook morphology created big problems as it is difficult to insert catheter to the ostium. Even if the catheter can be inserted into the ostium, the pressure can easily dropped or the catheter frequently flicked out when crossing the lesion.
To overcome the problems related to Shephard’s Crook morphology, the AL1 catheter (a swan-neck-shape) was used to facilitate balloon angioplasty and stents. The result was the patient had successfully undergone revascularisation and 3 stents had been placed in to Right Coronary Artery.

Keyword: Shephard’s Crook morphology – multiple lesions.

**CP 32. Percutaneous Coronary Intervention of Chronic Total Occlusion with Retrograde Approach**

Edmond Leonard  
Prof. DR. R. D. Kandou General Hospital, Manado, Indonesia

**Abstract:** Chronic total occlusion of coronary artery disease predominantly present with recurrent angina or myocardial infarction. Long-term survival myocardial function depends on the well-developed collaterals. We report on a 62-year-old man with chronic total occlusion in the left circumflex artery treated with percutaneous coronary intervention using retrograde approach. When an antegrade approach fails, a retrograde approach to recanalize a CTO is reasonable. A coronary guidewire is passed from the collateralizing vessel and directed to the distal portion of the CTO. The distal portion of the CTO is often easier to cross than the proximal portion. Once the retrograde wire is advanced into the proximal occluded vessel, a variety of techniques can be used to dilate the lesion in either a retrograde or an antegrade fashion. In this case, we use antegrade fashion. A retrograde approach for CTO has become more popular during recent years with encouraging results. This novel technique may provide an additional therapeutic option.

**Keywords:** coronary artery disease, chronic total occlusion, retrograde approach.

**CP 33. Angulated CTO in PCI**

Hotmauli Siahaan, Yudi Her Oktaviono  
Dr. Soetomo Teaching Hospital, Surabaya, Indonesia

Percutaneous coronary intervention (PCI) for the treatment of chronic total occlusion (CTO) is one of the most technically challenging areas of interventional cardiology. When CTO is combined with angulation and tortuosity of the coronary artery, the technical complexity of PCI for CTO is magnified. Proximal steep angulation quite likely contributes to the reduced success rate of interventions on chronically occluded circumflex arteries. Here we report A 56-year-old male patient history hypertension, hyperlipidemia, and diabetes mellitus was admitted to our hospital because of angina pectoris. Angiogram showed CTO at distal RCA (figure 1). PCI was performed using an antegrade approach. After successful crossing with CTO wire, we tried to predilate with balloon 1.0 x 15 mm for several time, and continue to predilate with bigger balloon 1.5 x 10 mm and 2.2 x 10 mm. We tried to advance stent but failed to cross the lesion. We try to make support by angiker wire (figure 2), but stent can’t cross the lesion. So we decided to use mother and child technique with guiding catheter 7 F and STO-1 5 F, we put the child catheter deep intubations within the proximal right coronary artery and pushed until close to the lesion (figure 3) and finally stent successfully crossed through the lesion and inflated up to 14 atm. Finally the result was very excellent with no residual stenosis (figure 4).

**Keywords:** Angulated CTO PCI, mother and child technique.

**CP 34. Mother and Child for Stent Interseption**

Lusiana, Yudi Her Oktaviono  
Dr. Soetomo Teaching Hospital, Surabaya, Indonesia

Guide inserted inside another guide can be used to strengthen the guide, can negotiate tortuous coronary artery with minimal damage, can accept normal balloons or stent delivery system. This case report presents a 54 years old man with STEMI anterior in 2 weeks prior to catheterization, who underwent PCI on ostial proximal LAD, distal LCX and mid RCA. PCI on ostial proximal LAD with DES had been done first, followed by PCI on distal LCX. The attempt to pass the stent to LCX had been failed because the guidewire passed through the stent strut from the proximal part of DES that had been deployed previously on ostial proximal LAD. Mother and child technique had been used to overcome the problem. STO 5 french inserted into EBU 3.5 6 french towards ostium LCX. Then NC balloon had been inflated on that area to destroyed stent strut that protruded to LM. The child were placed on ostium LCX and the attempt to pass the stent to LCX had succeed.

**Conclusion:** mother and child technique can be useful in an effort to do the stent interseption.

**CP 35. Subtotal Occlusion of Heavy Calcified Bifurcation Left Main**

Riana Handayani, Yudi Her Oktaviono  
Dr. Soetomo Teaching Hospital, Surabaya, Indonesia

The risk of major complication during percutaneous coronary intervention is influenced by angiographic, patient related and clinical factors. Subtotal occlusion of heavy calcified bifurcation left main in early intervention strategy of 64 year old woman with high risk stratification of Non ST Elevation of Myocardial Infarction is very high risk procedure. The coronary angiogram showed 50% stenosis at distal Left Main, a round-shaped filling defect of the contrast at proximal left descending coronary artery (LAD) caused subtotal occlusion of proximal LAD, total occlusion at ostial left circumflex artery (LCx), anomaly origin of ostial right coronary artery (RCA), heavy calcified of RCA and significant stenosis at mid RCA. After completion of diagnostic coronary angiography, we though the proximal LAD lesion represent either thrombus or calcified plaque. The angioplasty wire were placed in distal LAD supporting by balloon 2.0x15mm. During this procedure the patient had chest pain and hemodynamic instability. The balloon was inflated at 16 atm and upsized with non compliant balloon 2.5x20 mm at 20 atm. Stent DES was placed at distal LM-proximal LAD, proximal-mid LAD and mid LAD. The patient’s hemodynamic had improved and TIMI 3 flow had been restored. Knowledge of these factors (angiographic, patient related and clinical factors) allows the interventionist to identify the patient at high risk complication and facilitates the essential discussion of the risks and benefits of the intervention with the patient, family and hospital personnel. Appropriate measures can be taken before and during the high risk PCI procedure to minimize the risk of a major adverse event, and the medical team can be optimally prepared to deal with complications.

**Keywords:** high risk procedure, heavily calcified plaque.

**CP 36. The Strong Support for the Challenging Lesion**

Romi Ernawan, Yudi Her Oktaviono  
Dr. Soetomo Teaching Hospital, Surabaya, Indonesia

Many interventionists avoid to deal CTO lesions in many reasons, particularly due to long procedures, uncertain success rate and high
radiation burden. The most challenging one is providing the adequate support of the guiding catheter to back up the procedure. This case report presents a woman with stable angina who underwent PCI on CTO at the proximal of RCA. Using the anterograde approach, the lesion became very challenging because the ostium of the RCA was unusual in origin. The support of the guiding catheter was not strong enough made the CTO failed to be crossed in several attempts. Finally, by using the multipurpose guiding catheter and supported by anchoring balloon technique, the CTO had been successfully negotiated and three DESs had been deployed at the RCA.

At the end of the procedure, the fourth DES failed to be advanced at distal of RCA, in which the stent was severely stuck in the prior ostial-proximal stents. After so many attempts, the last stent had been pulled out and the strut was heavily damaged. The open-cell design of those involved DESs was the main cause of that stent placement failure.

**Keyword:** strong support - anchoring balloon technique - open cell design.

**CP 37. Successful Percutaneous Coronary Intervention of Bifurcation Lesion Using the T and Protrusion Technique**

Zainal Safri, Isfanuddin NK

Cardiology Department of Medical School Sumatera Utara University/ Adam Malik General Hospital, Medan, Indonesia

We report on 54-year-old man with significant bifurcation lesion of the Left Artery Desseendent and Diagonal one treated with Percutaneous Coronary Intervention (PCI) using the T and Protrusion (TAP) technique. PCI for the treatment of bifurcation lesions is associated with a lower success rate and increased risk of subacute stent thrombosis and restenosis. The best approach for the management of a bifurcation to achieve optimal procedural outcomes No two bifurcations are identical, and no single strategy exists that can be applied to every bifurcation, therefore, a critical issue in bifurcation angioplasty regards the selection of the most appropriate strategy for an individual bifurcation.

In this case patient with complex bifurcation lesion (Medina class 1.1.1). We chose the TAP technique because it could minimize arterial injury, prevent gaps inside the branch and guarantees the complete coverage of the side branch ostium to prevent restenosis formation and more importantly, we hope long-term success with low restenosis rates and low major adverse clinical event.

**Keyword:** PCI, Bifurcation, TAP technique.

**CP 38. Crusade Microcatheter Assisted Antegrade Wiring of Difficult Angulated Chronic Total Occlusion at Left Circumflex Artery**

Rifnaldi

Binavahaya Cardiac Center, Jakarta, Indonesia

The approach to cannulate chronic total occlusion (CTO) still remains challenging. CTO lesion with blunt entry point with the presence of side branch at proximal stump may frequently be difficult to puncture. We report a successful case of re-attempted CTO Percutaneous Coronary Intervention (PCI) of left circumflex artery bifurcatio with difficult angulation and side branch existence at the stump, using antegrade approach assisted by crusade microcatheter.

**Keyword:** Crusade microcatheter – chronic total occlusion.

**CP 39. The Use of Combination of Femoral and Radial Arteries Puncture in Chronic Total Occlusion Treated by Antegrade Approach**

Herawati Isnanjah, Sunarya Soerianata

Department of Cardiology and Vascular Medicine
Harapan Kita Hospital, University of Indonesia, Jakarta, Indonesia

Chronic total occlusion (CTO) recanalizations remain extremely challenging procedures. CTO are present in about 15%-30% of patients referred for percutaneous coronary intervention (PCI). Successful CTO-PCI is associated with improved cardiac symptoms, exercise tolerance, survival, and reduced major adverse cardiac events. The antegrade approach is still the first strategy for CTO-PCI, however, some technical challenges remain in complex CTO-PCI procedures. Dual arterial access allows visualisation of the vessel both proximal and distal to the occlusion as well as the course of interventional collaterals. Potential access sites include bilateral femoral, combination of femoral and radial and bilateral radial arteries has been shown to be safe and feasible in patients with CTO. We present two cases with Stable Angina Pectoris CCS II-III, old anterior myocardial Infarction, dyslipidemia and Hypertension, with previous Angiography showed Total Occlusion at LAD, non significant stenosis at LCx, and non significant stenosis at RCA with distal part gave collateral to LAD. We perform double puncture at right radial artery and at right femoral artery. Simultaneous double contrast injection is mandatory to visualize the distal vascular bed beyond the CTO, via the collateral-supplying side of the artery. The CTO was successfully recanalized using antegrade approach with guide wire Fielder XTA with micro-catheter as back up until distal lesion without any access site complications. Stents were deployed at mid until ostial LAD with good result.

**CP 40. Complex Technique During Primary PCI**

Achmad Lefi, Yudi Her Oktaviono

Dr. Soetomo Teaching Hospital, Surabaya, Indonesia

Bifurcation lesions during Primary PCI for patient with STEMI were commonly found. As evidenced by the discovery of bifurcation lesions in 14% of the total patients underwent PCI for STEMI and the LAD lesion. Procedural success rate of bifurcation lesions has been shown to be lower than the non-bifurcation lesions. The long-term outcome of bifurcation lesions was also more harmful than non-bifurcation lesions. The best approach for treating bifurcation lesions is still controversial, although it has been many experiments to discuss technical issues about the treatment of bifurcation lesions, for example, the stent compared to the two-stent, use of “prison” wire, and final kissing balloon inflation.

This case report presents a man who had inferior AMI and Hypertension, with previous Angiography showed Total Occlusion at RCA with distal part gave collateral to LAD. We decided to use CPART technique, using antegrade approach with guide wire Fielder XTA with micro-catheter as back up until distal lesion without any access site complications. Stents were deployed at mid until ostial LAD with good result.
III. MODERATED POSTER PRESENTATION

MP 1. Computed Tomography Angiography May Aid in Finding Anomaly Culprit Vessel in ST-segment Elevation Myocardial Infarction

Hadi MW1, Damay VA1,2, Thengker A1, Alexander N1, Lim H1, Lukito AA1,2

1Siloam Hospitals Lippo Village, Indonesia
2Universitas Pelita Harapan

Background: Abnormal coronary arteries occur in 1% of general population. Normal right coronary artery (RCA) usually arises from an ostium just below the sinotubular junction of the right anterior sinus of Valsalva. ST-segment elevation myocardial infarction (STEMI) in patients with coronary artery anomalies makes the identification of culprit lesion challenging, also for percutaneous coronary intervention (PCI).

Method: A 49 years old male came to outpatient department with chief complaint of epigastric pain & burning sensation on the chest since several hours before. The electrocardiogram showed pathological Q & inverted T waves in inferior leads. He had coronary angiography two weeks before admission in another hospital with the result of RCA couldn’t be found and 90% lesions in mid left anterior descending (LAD) & diagonal-1 (D1). Coronary computed tomography (CT) showed that the RCA ostium was originated from left coronary cusp and there were severe stenosis in mid RCA, LAD, D1. The result support previous working diagnosis of recent inferior STEMI. He then underwent PCI, with stent implanted in proximal RCA showed a good result.

Result: He had second coronary angiography one week after the chest pain with the result of RCA ostial could be easily found on the ascending aorta, 98% lesion with thrombus in proximal and 40% in mid RCA, 30-40% lesion in mid LAD and 80% in ostial-mid D1. The result support previous working diagnosis of recent inferior STEMI. He then underwent PCI, with stent implanted in proximal RCA showed a good result.

Conclusion: Management of patient with STEMI and coronary ostial anomaly could be tricky and challenging, however additional information from CT angiography might be useful to find the anomaly culprit lesion, thus the interventional therapy can be optimized.

MP 2. The Hidden Lesson Beyond Dynamic ST-T Changes in an NSTEMI High Risk Patient

Revi Adherianti1, Dr. Yudi Her Oktaviono2

1Cardiology Resident of Airlangga University Faculty of Medicine – Dr. Soetomo Teaching Hospital
2Senior Cardiologist of Airlangga University Faculty of Medicine – Dr. Soetomo Teaching Hospital

Case Illustration: Mr. P/55 yo came to Emergency Ward with a chief complaint of severe resting chest pain since 4.5 hours prior to admission. The pain could not be relieved by sublingual nitrat; no dyspnea, no palpitation, nor edema. Some episodes of chest pain had been experienced since 7 days before the current admission. General impression: yelling around due to the chest pain (CCS class IV). BP 130/70, HR 70 bpm, RR 24x/min, SO2 95%. Other physical examinations: within normal limit. The first ECG made at emergency ward was sinus rythm with anteroseptal old myocardial infarction with normal T waves. There was slightly elevated cardiac marker (CKMB 54.1 and Troponin I 0.06) as well as abnormal wall motion at inferoseptal (B-M), anteroseptal (B-M), and septal (A). The second ECG was made 3 hours after due to patient complaint of subsided chest pain. It was sinus bradycardia rythm with ST segment changes similar to hyperacute myocardial infarction pattern. Was it a STEMI or was it just a transient ST-Elevation? Additional 300 mg Clopidogrel loading dose was given for the probability of PCI. To evaluate the case, the third ECG was performed 30 minutes after the second ECG. It was accelerated idioventricular rythm with sinus episodes, and ST-T changes at V1-V4. And so, the final diagnosis of this patient was: NSTEMI High Risk. Urgent PCI was then decided. Diffuse disease of LAD with 99% critical stenosis and thrombus containing lesion at proximal segment were found from the diagnostic coronary angiography. Three stents were inserted to provide good coronary flow. Directly after PCI, no chest pain and no accelerated idioventricular rythm were found; while T inversions were found at V1-V4. Discussion: What is the hidden lesson beyond these dynamic ST-T changes? The “normal” T wave from the first ECG during the severe chest pain was finally concluded as pseudonormalization. At that time, there might be total occlusion (no flow) of coronary artery. After DAPT loading dose was performed, there might be mild revervasularization and so the pseudonormalization was changed into biphasic wave that similar to hyperacute ST elevation pattern. Was it a Wallen’s Syndrome? And...what was the cause of accelerated idioventricular rythm? The accelerated idioventricular rythm (slow VT) was due to further partial revervasularization after 300 mg Clopidogrel additional loading dose. So, the dynamic ST-T changes were actually good sign because the transformation between no flow to partial flow of coronary artery had been progressed. It was proven by the diagnostic coronary angiography result which presented non-total occlusion lesion. Moreover, the “ischemic” T wave pattern after complete revervasularization from PCI was sign of good coronary artery flow. In that time, there was no complaint of chest pain, and the ECG was free of accelerated idioventricular rythm too. Conclusion: This is an NSTEMI high risk case with interesting ECG dynamic changes including: pseudonormalization, possible Wallen’s Syndrome, and accelerated idioventricular rythm. Lesson learned: “normal” T wave is not always sign of good coronary flow. Contrary, if “normal” T wave was accompanied with severe resting chest pain, it might be sign of no flow. Therefore, if not sharply analyzed, pseudonormalization can be a masking pitfall leading to a lost-diagnostic of coronary artery disease.

Keywords: NSTEMI, pseudonormalization, Wallen’s Syndrome, accelerated idioventricular rythm, coronary flow.

MP 3. Acute Stent Thrombosis in Left System

Stanley Togar Panggabean, Yudi Her Oktaviono

Dr. Soetomo Teaching Hospital, Surabaya, Indonesia

Acute stent thrombosis after percutaneous coronary intervention (PCI) is still problematic because of the subsequent development of myocardial infarction and poor prognosis. The incidence of acute stent thrombosis, occurring within 0-24 hours after PCI, is relatively low, but underlying causes and treatment strategy are not well defined. Thrombus aspiration, balloon angioplasty and glycoprotein IIb/IIa receptor blocker or intracoronary fibrinolitics agents could be therapeutic options. We report a case of acute stent thrombosis which developed after PCI for LCx. 24 hours after PCI, the patient complaint of chest pain, ST elevation in V1-V6 and subsequently resuscitated because of ventricular fibrillation, The emergent angiogram (CAG) under resuscitation showed acute stent thrombosis in LM, LAD and LCX and unsuccessful treated with intracoronary streptokinase.

Keywords: coronary thrombosis, fibrinolytic agents.
Acute coronary syndrome (ACS) resulting from left main coronary artery (LMCA) stenosis is associated with a significant morbidity and mortality rates. The current guidelines recommend urgent coronary artery bypass grafting (CABG) as the first line treatment on hemodynamically stable patients, but percutaneous coronary interventions (PCI) is likely to lead to faster reperfusion of coronary flow, avoiding delays of major surgical intervention.

Case Report: A 55-year-old man was referred with history of retrosternal chest pain in 15 hours before admission, associated with shortness of breath. Patient already received loading dose of Aspilet and Clopidogrel and sublingual nitrat. He was hemodynamically stable with no support. From other physical examination found elevated jugular venous pressure, S3 heart sound, rales in both lung, and extremities were warm. The ECG showed sinus rhythm with pathological Q wave at anteroseptal leads, and ischemic in apicolateral and high lateral leads. Both CKMB and Troponin T was elevated (222 U/L and 1.30 ng/mL respectively). Based on those datas, patient was diagnosed as NSTEMI.

Both RCA was seen and treated with implantation of a drug-eluting stent (2.75 x 33 mm). The flow to left anterior descendent (LAD) and LCX were restored. Culprit lesion was revealed 100% stenosis at distal of LMCA, the right coronary artery (RCA) was normal and gave collateral flow to left anterior descendent (LAD) and left circumflex (LCX) arteries. Since urgent CABG can not be done in our hospital, we decided to perform PCI. Initially with 7 Fr guide catheter (GC) AL 1 and guide wire (GW) Sion Blue. Predilatation was performed at lesion site with 2.0 x 15 mm Maverick balloon, then flow to LAD and LCX were restored. Culprit lesion was showed at bifurcation of LAD and LCX. GW Extra Floppy was put on LCX and 3.5 x 33 mm Combo stent DES was deployed at LM to LAD, and predilatation was performed with 4.0 x12 mm Saphire balloon NC. Angiographic after stenting showed dissection at distal of stent, so we decided to deployed 3.0 x 15 mm Combo stent DES. TIMI flow after procedur was 3, with no residual stenosis, and patient is hemodinamically stable. Left main PCI appears to be safe and feasible on a totally occluded LM lesion. Rapid treatment and safety appears to be favoring PCI on selected patients.
it can take posterior descending course as well. Here we present a rare case of isolated inferior STEMI, progressing to anterior-inferior STEMI with unexpected “wrapped LAD” as its culprit and explain the evolution of thrombosis by 12 lead serial surface ECG.

Case Presentation: 48-year-old male was admitted with unstable angina pectoris to our hospital with repeated typical angina and relatively normal ECG reading and low cardiac enzyme level. The patient was then heparinized using enoxaparin in the ward after loading aspirin and clopidogrel. On the second day during his stay, suddenly he felt a worsening of chest pain.

As the catheterization lab was prepared for primary PCI, the symptoms became even more excruciating and we took another serial ECG less than an hour after the first ECG, showing simultaneous anterior & inferior STEMI, where the ST segment in V1-V4 were also elevated.

Coronarography revealed 70% stenosis in mid RCA, and an unusual anatomy where long wrapped LAD continues to form the PDA together with distal RCA and supplied most of the inferior wall. Left contrast injection demonstrated irregular non dominant LCx, and high thrombosis burden from near LAD ostium up to mid LAD. We used BL 3.5/6Fr as our guiding catheter for the left coronary intervention. Asahi Sion Blue wire had some difficulty to pass the lesion therefore we exchange it to HT Pilot 50 which was successfully directed to distal LAD and move Sion Blue to protect the LCx. After about 9 rounds of thrombosiswection with Thrombubster II and multiple ballooning with Tazuna 2.0x15mm up to 10 atm, we managed to get a clearer view of the lesion which started from a proximal LAD until mid LAD.At last we placed 2 DES: Biomatrix 2.5x36mm in mid LAD and Biomatrix 2.75x33mm in proximal LAD with good Tim3 flow result.

Discussion: LAD is graded in three types according to anatomy: Type 1 falls short of apex, Type 2 reach up to the LV apex and Type 3 wraps around LV apex and travels some distance in the posterior inter-ventricular groove. The term “wrapped LAD” was first coined by Sasaki et al, defined as an LAD from a post-reperfusion coronary angiogram that perfuses at least one fourth of the inferior wall of the left ventricle in the right anterior oblique projection (Figure 4).1 Akademir et al. described a patient with acute anterior and inferior wall myocardial infarction due to occlusion of the “wrapped LAD”.2 Another report by Clark et al described a patient with an anomaly where the LAD formed the PDA and terminated just before the crux.3 Recently, Roy et al reported a case of isolated inferior STEMI caused by occlusion distal to D1 of an LAD with anomalous continuation to the PDA.4 In our report we had the perfect opportunity to observe the evolution from isolated inferior STEMI to anterior-inferior STEMI in one patient with a similar “wrapped LAD” variant.

Our patient presented initially with inferior STEMI, which mostly caused by an occlusion in the RCA, infrequently in LCx and even rarer in LAD. From Figure 1, we learned that the ST deviation in lead II and III seemed to be equal, with more tendency of being higher in lead III. We also found reciprocal ST depression in lead aVL and lead I, which gave off an impression that the injury vector dominantly directed to the right side. One might argue that the culprit was RCA, but in this case, the ECG manifestation can be explained by the unique LAD anatomy variety where the “wrapped LAD” formed a continuation to the PDA and may also perfuse the inferior wall in a more rightwardly fashion. Therefore, at this point in time, we assume that injury due to thrombosis was limited to very distal LAD.

On serial ECG (Figure 2), we observed evolution of the 12-lead ECG to anterior-inferior STEMI. In previous reports, there are 4 conditions in cases of LAD occlusion according to the existence of a wrapped LAD: 1) If the patient has a wrapped LAD and the location of the occlusion is proximal to D1, ST segments are elevated in anterior leads and remain within isoelectric lines in inferior leads; 2) If the patient does not have a wrapped LAD and the location of the occlusion is distal to D1, ST is elevated in anterior leads and remains within isoelectric lines in inferior leads; 3) If the patient does not have a wrapped LAD and the location of the occlusion is proximal to D1, ST is elevated in anterior leads and reciprocal ST depressions occur in inferior leads; 4) and if the patient has a wrapped LAD and the location of the occlusion is distal to D1, the ST segment is elevated in anterior and inferior leads simultaneously. Luna et al had also proposed an algorithm to point out the level of occlusion in patients with ST elevation in precordial leads, in which concomitant ST elevation in II,III,aVF speaks for a culprit distal to D1 (Figure 5). In our patient, it seemed that the thrombus that was originally formed distal to D2, expanded to create more injury proximally, creating subsequent ST elevation in the precordial leads. After primary PCI, the anterior and inferior ST segment elevation resolved to isoelectric line suggesting that the lesion in LAD was responsible for ECG change in those areas.

In conclusion, we have described a rare case of left dominant coronary system, where the LAD wraps around the apex, forming posterior descending artery. When the occlusion occurred in the distal LAD, the patient presented with isolated inferior STEMI as a consequence that LAD also supplied the inferior wall and septum. As the injury expanded to a more proximal area, the ECG evolved to concomitant anterior-inferior STEMI. Cardiologists must be aware of such anatomical variation as the longer LAD covered wider myocardial perfusion segments and hence posed wider areas of jeopardy should it become occluded.

**MP 8. Percutaneous Coronary Intervention of Unprotected Left Main Disease with Critical Ostial Stenosis**

Iman Suhartono, Janry A. Pangemanan

BLU RSUP Prof. Dr. R. D. Kandou, Manado, Indonesia

While coronary artery bypass grafting (CABG) has been the standard of care for patients with unprotected left main coronary artery disease, advances in percutaneous coronary intervention (PCI) have made stent placement a reasonable alternative in selected patients. We describe a 66-year-old man with 3-vessel coronary artery disease who refuses to undergo CABG. Stenting of ostial lesion appears to be safe and effective with low rates of major cardiac adverse events and restenosis. We use T-stent technique through transradial approach. First we implant stent from ostial left main to left circumflex artery and then we implant stent in ostial LAD. A PCI of left main disease has become more popular during recent years with encouraging results. This novel technique may provide an additional therapeutic option.

**Keywords:** percutaneous coronary intervention, left main disease, critical ostial stenosis, T-stent technique.

**MP 9. How to Manage Loose Stent**

Evit Ruspiono

Rumah Sakit Haji Surabaya, Surabaya, Indonesia

Male 61 years old who presented with stable angina since 1 month ago, with Risk factor of CAD: hypertension, Dyslipidemia and heavy smoker. The ECG showed inferior old myocardial infarction. Diagnostic coronary angiography found : bifurcation lesion at distal LMCA with significant stenosis 60% at the distal LM and 65% at
the ostial LCx (Medina score 1-1-0), high D1 and diffuse disease with maximal stenosis 85% at the distal LAD after D2. Significant stenosis 85% at the ostial LCx and CTO at the distal after OM1, diffuse disease with maximal stenosis 95% at the mid RCA. A 6-Fr JR 4.0 guiding catheter (Launcher, Medtronic) was engaged into the right coronary artery ostium via the femoral artery, GW pilot 50 (Hi-Torque Pilot 50) inserted to distal RCA. Perform Balloon support by Saphire II inserted to mid RCA and dilated, after that perform balloon to proximal RCA and dilated. Stent DES Firebird II (Rapamycin) to mid RCA and dilated. BMS Apollo 3.0x36 mm inserted to proximal-mid RCA, overlapping with previous stent, but was loosed and insert to the guiding catheter. BMS stent was pulled with DOC GW extension. GC 6F 4.0 inserted to stent, but was loosed and insert to the guiding catheter. BMS mm inserted to proximal-mid RCA, overlapping with previous stent and dilated. Final angiography confirmed successful pull out of loose stent and dilation of the RCA. **Keyword:** diffuse disease with maximal stenosis, RCA, loose stent, doc GW extension technique.

**MP 10. Opening CTO in BPJS Era**
M Yusuf Suseno
Telogorjo Hospital, Semarang, Indonesia

We need many device end extra cost to open CTO lesion. But unfortunately, several government insurance(BPJS) patients in our hospital Telogorjo Hospital Semarang (B type hospital) don’t have any money to pay more. Still we have obligation to do our best. From October 2014 to October 2015 we did CTO case with funding from this insurance in 9 patient. The funding from this insurance was 36 until 46 million per case. To reduced cost we used re-use guiding catheter, wire, balloon, and microcatheter. We failed to cross the CTO in 6 patient. Usually it because the CTO lesion was very long and calcified. We started with re-use Fielder XT wire, and escalated the wire to another ‘hard’ wire. But of course re-use wire lost their capability to cross the lesion. And also our microcatheter and balloon. In our 3 cases that succeeded, we crossed them with prolonged x-ray time and many difficulties. According to our experience, we can open CTO lesion in BPJS era. But we need very excellent strategy, include detail review of the electrocardiography, echocardiography and coronary angiography to make the greatest benefit to the patient.

**MP 11. Iatrogenic Coronary Artery Fistula in Percutaneous Transluminal Coronary Angioplasty**
Aussie F. Ghaznawie, Moeh. Faishal Riza, Iswanto Pratanu
Cardiology and Vascular Department, Airlangga University Surabaya

Iatrogenic or acquired coronary artery fistula is an uncommon complication that mostly avoided during percutaneous coronary intervention. Optimal management and predictors are lacking due to limited cases. Treatment includes medical therapy, transcatheter closure of the fistula or surgical ligation of the fistula. However, these treatments should be tailored according to the size and location of fistula, patient’s age and clinical presentation. The use of eluted-stent are novel, nevertheless their use is not free from stent thrombosis. We report a case of asymptomatic iatrogenic coronary artery fistula type IV with small diameter. The patient was managed conservatively and used conventional stent. **Keyword:** iatrogenic coronary artery fistula, Percutaneous Coronary Intervention complications.

**MP 12. Drug-Eluting Stent Fractures as a Cause of In-Stent Restenosis**
Ari Rahmawati, Abdul Ghofur, Iswanto Pratanu
Dr. Soetomo Teaching Hospital, Surabaya, Indonesia

Drug-eluting stents (DES) have greatly reduced the risk of in-stent restenosis (ISR) by inhibiting neointimal growth, compared to bare-metal stents (BMS). Nevertheless, DES are still prone to device failure, which may lead to a harmful outcome such as the development of myocardial ischemia by in-stent restenosis or thrombosis, and repeated coronary intervention may be required. Recently, stent fracture (SF), which is a rare event, has emerged as a potential mechanism of DES failure that is associated with ISR. We report a case of a drug-eluting stent fracture and in-stent restenosis which are detected by the use of coronary angiography and MSCT. The patient then underwent a stent re-implantation procedure at target lesion. **Keyword:** Percutaneous Coronary Intervention, Drug-Eluting Stent, Stent Fracture, In stent Re-stenosis.

**MP 13. Brugada Syndrome and Myocardial Bridging: A Deadly Companion**
Thengker A1, Lim H1,2, Alexandra N2, Hadi MW2, Darmay VA1,2, Lukito AA1,2
1Faculty of Medicine, Pelita Harapan University
2Siloam Hospital Lippo Village, Tangerang, Indonesia

**Background:** Brugada syndrome is a disorder characterized by arrhythmias and sudden cardiac death associated with one of several electrocardiographic (ECG) patterns characterized by incomplete right bundle-branch block and ST elevations in the anterior precordial leads. Arrhythmias and sudden death also have been reported in patients with myocardial bridging which is generally confined to the mid left anterior descending artery (LAD) artery and sometimes cause chest pain or discomfort. **Methods:** A 41 yo male with epigastric pain also nausea and vomiting. no chest pain, chest discomfort nor dyspnea. He revealed the history of thrombolytic infusion due to chest discomfort and was diagnosed as heart attack one year ago at another hospital. No history of fainting. Physical examination was normal and only epigastric pain in palpation. ECG showed right bundle branch block with the characteristics of Brugada syndrome. Plasma Electrolytes and cardiac enzymes were normal. Echocardiography was performed and showed normal valves, dimensions and wall motion, and good LV function. Coronary angiogram showed moderate to severe bridging which cause 85% compression of mid segment of LAD artery. **Results:** Non-dihydropiridine calcium antagonist was given and planned for ICD implantation, but the patient did not return for further work-up. **Conclusion:** Chest discomfort in patients with myocardial bridging and brugada syndrome sometimes can be misdiagnosed as ST elevation myocardial infarction (STEMI). The myocardial bridging may lead to chest discomfort and the Brugada showed “ST elevation-like” ECG pattern at presentation. The diagnosis of STEMI must be confirmed by carefully differentiate between “ST elevation-like” pattern and true ST segment elevation, and further confirmation could be made by serial ECGs and elevation of cardiac enzymes when there is a doubt.
MP 14. Huge Buble, Code Blue!

Dwi Laksono Adiputro, Yudi Her Oktaviono

Dr. Soetomo Teaching Hospital, Surabaya, Indonesia

Coronary air embolism remains a serious complication of cardiac catheterization despite careful prevention. The complications of coronary air embolism range from clinically insignificant events to acute coronary syndrome, cardiogenic shock and death. We report here a case of multiple air emboli in both left coronary arteries, complicated by cardiogenic shock and ventricular fibrillation in a 49-year-old male patient undertaking elective percutaneous coronary intervention (PCI). The patient recovered after supportive measures, including oxygen, intravenous dopamine infusion, and cardiac compression; and repeated forceful injection of heparinized saline which successfully resolved the air embolism. He then eventually underwent successful PCI in left anterior descending artery (LAD) without any residual stenosis.

Keywords: coronary arteries, air embolism, cardiogenic shock, ventricular fibrillation, saline injection.

MP 15. Non Surgery Management of Acute Type B Aortic Intramural Hematoma combining with Coronary Arterial Disease(Triple vessel)

Harrison1, Agnita Irawaty1, Linda Lison2

1General practitioner
2Cardiologist, Medistra Hospital, Jakarta, Indonesia

Descending thoracic aorta (DTA) dissection is one of the most common aortic emergency. It can be fatal if not promptly diagnosed and treated. Aortic Intramural Hematoma (IMH) represent a subtype of aortic dissection characterized by crescentic thickening of the aortic wall and the absence of an intimal flap or visualized entry point. The most common risk factors associated with IMH are hypertension, atherosclerosis, and advanced age. The diagnosis is typically established by imaging techniques such as MSCT Scan or MRI. Recently, endovascular stent grafting would be the treatment of choice for symptomatic patients. In this case we report the male with acute type B IMH involvement whole descending thoracic aorta (DTA) combining with Coroner Artery Disease.

Keywords: Descending Thoracal Aorta - Aortic Intramural Hematoma - Endovascular Stent Grafting - Coroner Artery Disease.

MP 16. Percutaneous Retrieval of Protrude Amplatzer Septal Occluder During Percutaneous ASD Secundum Closure

Lely Puspita Candra, Fani Susilina Hasibuan, Yudi Her Oktaviono

Dr. Soetomo Teaching Hospital, Surabaya, Indonesia

The transcatheter closure of the atrial septal defect (ASD) has become an alternative technique to surgical procedure. Amplatzer Septal Occluder (ASO) migration and embolization after deployment is rare. Percutaneous retrieval of the ASO after release have been reported. Most embolization occurred because of inadequate rim or undersized device. We reported a case of successful percutaneous retrieval of protrude ASO into the right atrium during ASD closure. A 12 year old girl with Secundum Atrial Septal Defect came to pediatric cardiology. Clinical examination revealed normal vital parameters with a 3/6 ejection systolic murmur in the pulmonary area. The splitting of the second heart sound was wide and fixed. The respiratory system examination was unremarkable. Her ECG revealed sinus a rhythm with RAD axis and RVH. The echocardiography before procedure, there was Secundum ASD L to R shunt with defect IAS 23,4mm, anterior rim 10,4mm and posterior rim 4,4 mm (inadequate rim). The child was taken transcatheter closure of ASD with general anesthesia, guiding fluoroscopy and transorachial echocardiography and transesophageal echocardiography.

The size of the defect confirmed with balloon sizing accumark lifetech 34mm intra procedural. Post procedural ASD Closure with device ASO Litelife 28mm, there was good deployment. But after delivery cable released from device, fluoroscopy showed residual flow and ASO protruded to the right atrium, confirmed by TEE. We decided to retrieve device ASO percutaneousy with amplatzer goose neck snare. First we changed the femoral sheath into long straight sheath and through the delivery cabel and tracker catheter 0,035 we delivered amplatz goose neck snare 6F and could hold the screw on right atrial disk of ASO, and with gentle and constant we bringing back the device into delivery cable, but we failed. We changed the snare into 4Fisize and hold the screw on right atrial disk firmly, and could bring back the ASO through the sheath into vena cava inferior and out of the body. There was no complication after the procedure. The possibility of the protrude ASO was inadequate rim and large defect ASD.

Keywords: Protrude ASO, percutaneous retrieval ASO.

MP 17. Acute Myocardial Infarction Due to Acute Left Main Total Occlusion

Devic Caroline, Nanang Rudy Utantyo, Iswanto Pratanu

Dr. Soetomo Teaching Hospital, Surabaya, Indonesia

Acute total occlusion of the left main artery (LICA) is a rare cause of myocardial infarction, it carries catastrophic and mostly fatal event. Patients may present with cardiogenic shock and die whenever this event occurs. The treatment of an acute left main artery occlusion still poses a challenge. We report a case of a 55-year-old man with typical chest pain, the ECG showed ST segment depression at inferior and anterolateral lead. This patient had acute myocardial infarction due to acute distal left main occlusion. The patient then underwent a successful angioplasty with ‘stenting’ of left main coronary artery with good angiographic result. Two days after PCI the patient experienced lung edema and required mechanical ventilation support but then made a gradual recovery. The patient was discharged from the hospital 8 days after admission.

Keywords: myocardial infarction, acute left main occlusion, percutaneous coronary intervention.

MP 18. Transfemoral Snaring Technique for Retrieving The Migrated Chemoport Fragment into Pulmonary Artery of A 35-years-old Woman with Routine Chemotherapy: A Rare Complication of Port Catheter

Dewi Ayu Paramita1, Laurent Febrilia Yuwono1, M Triadhy Nugraha Y2

1Cardiology and Vascular Medicine Resident at Moewardi General Hospital-Sebelas Maret University, Surakarta
2Department Cardiology and Vascular Medicine at Moewardi General Hospital, Surakarta

Introduction: Central venous access devices for chemotherapy are being used extensively in patients with cancer. Spontaneous fracture and migration of the catheter is uncommon. We present the retrieving procedure for uncommon occurrence of a fracture and spontaneous migration of the chemoport fragment into the pulmonary artery as a
delayed complication of a central venous access catheter implanted for chemotherapy administration.

**Case Report:** A 35-year-old woman was referred to the Moewardi General Hospital Surakarta because of there was a chemoprotect fragment into her pulmonary artery. Patient history included post radical mastectomy because of breast cancer and routinely go to another hospital for chemotherapy. Cardiac examination, laboratory finding, and electrocardiogram were normal. Chest X-ray and Echocardiography demonstrated visualization of the catheter fragment in pulmonary artery. The migrated chemoprotect catheter fragment were retrieved using snaring device and 6 Fr diagnostic catheter with right heart catheterization procedure. Transfemoral Snaring Technique using 8 Fr short introducer sheath were used. First we snared the catheter tip in right pulmonary artery via right femoral vein. After that, the port catheter was herded to right iliac artery. Finally, we successfully pulled out the migrated chemoprotect catheter fragment via introducer sheath. She had an uneventful recovery.

**Conclusion:** Catheter fracture remains a potential complication, which must be recognized and treated promptly. Transfemoral Snaring Technique is a safe and useful technique to retrieve the migrated chemoprotect catheter fragment in chemotherapy patient who used chemoprotect.

**Keywords:** chemoprotect, chemotherapy, migration, pulmonary artery.

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**MP 19. How to Fight Huge Sticky Thrombus**

Benny Jovie, Yudi Her Oktaviono

Dr. Soetomo Teaching Hospital, Surabaya, Indonesia

Sticky thrombus is often the case in STEMI, the problem is being debate among experts for action aspirate or not aspirate. This case report present a 55 yo man with STEMI inferior right ventricle killip I onset 6 hours. This patient was indicated to primary PCI so we do step by Step procedure PTCA. Resulted there was, dominant RCA CTO proximal RCA with thrombus, stenosis 80 % at proximal LAD, LCX non dominant collateral grade II from OM1 to septal LAD, LMCA was normal. We decided to aspirate thrombus by using thrombustor 6F. We insert the STENT DES X1imus 3.5x32mm from proximal to mid RCA by using Traping method. The patient haemodynamic was decreasing BP 80/40, from evaluation and found thrombus at distal RCA then we aspirate it by using thrombustor and we gave streptokinase 150.000 ui intra coronary, we insert the GW runthrough NS hypercoat to distal RPL, during this procedure the patient went into ventricular tachycardia, we get resuscitation and defibrillate 360 joule ROSC. We continued the procedure by stenting RPL with DES Promus Element Plus 2.5 x 28 mm and then we gave Integrisil 11.7 cc intra coronary. After that, we insert STENT DES CRE-8 4.0 x 20 mm to ostial proximal RCA overlapping with Stent distal, Balloon Maverick 2.0 x 15 mm to RPDA, cedocard 1mg iv, we aspirate the distal thrombus and gave Integrisil 11.7 cc intracoronary. We insert the BMS Precision 2.5 x 8 mm to RPDA. Balloon ex stent CRE-8 to proximal RCA 4.0 x 20mm dilate from distal RCA until proximal segment. The problem sticky thrombus was succest patient went well and good perfusion.

**Conclusion:** Sticky thrombus could be solved with aspiring thrombus accompanied streptokinase drug delivery and integrisil.

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**MP 20. Ostial Left Main Stenting**

P Rahasto1, A Ridwan2, J Budyanto2, R Nilam2

1Departament of Cardiology and Vascular Medicine, Faculty of Medicine, Indonesia University / Tangerang General Hospital – Mayapada Hospital Tangerang 2Catheterization laboratory, Mayapada Hospital Tangerang

Facing with leftmain stenosis is a challenge. Part of the leftmain that sometime missed from our concern is ostial leftmain. The aim of this case report is to remind us that progression of atherosclerosis can happen shortly and we must aware about patient complaint after stent insertion. Another thing that we can learn from this case report is the possibility of ostial leftmain stenosis when the blood pressure fall during angiography / angioplasty coroner.

A 55 years man came to the cardiovascular center Mayapada Hospital Tangerang with chief complaint of chest pain. He got treadmill exercise test and showed positif ischemic response. On January 2015 he underwent angiography coroner and the result is Ostial LM stenosis 30 %, LAD stenosis 80 %, Diagonal 1 stenosis 80 %, LCX stenosis 80 % and RCA stenosis 99 % at Posterolateral Branch. We did angioplasty and put 3 stent on LAD, LCX and RCA. He was satisfied with the result. No chest pain anymore.

Six month after stent implantation he starting complaint of angina induce by exercise. Treadmill exercise test was performed and the results positif ischemic response. Angiography coroner showed ostial left main stenosis 70 %. There are no ISR on 3 stent that were implanted before.

According to the ostial left main stenosis there is a problem when make cannulation to the LM. The blood pressure fall and if we did not aware about this condition we could not treat the patient. We prepare the pci guidewire together with balloon PCI inside guiding catheter just before cannulation to the LM. After successesfull cannulation as soon as possible we push guidewire and balloon then we withdrawal guiding catheter outside LM. The blood pressure did not fall and we could make predilatation baloon angioplasty. Stent insertion at the ostial side protrude to the Aorta. After successesfull PCI patient feeling good and did not complaint any more.

The learning point of this case is awareness of non significant stenosis that in the next day it would be a significant stenosis. The other thing that we learn from the case is when the blood pressure fall during guiding cannulation means it could be something wrong with coronary ostial.

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**MP 21. Angina Pectoris caused by Hypertrophic Obstructive Cardiomyopathy in Adult with Coronary Artery Disease**

Desandri DR, Priaatin H, Yansen I, Nauli SE, Rahasto P

Department of Cardiology and Vascular Medicine Faculty of Medicine Universitas Indonesia Tangerang General Hospital, Tangerang, Indonesia

**Background:** Angina pectoris well known as a result of oxygen supply and demand to myocardial tissue missmatch, most of them caused by significantly coronary artery stenosis. Several epidemiologic studies have reported a similar prevalence that hypertrophic cardiomyopathy (HCM) occurs about 1 from 500 people in general population. Adult patients with HCM may also develop atherosclerotic coronary artery disease (CAD). Reports on the prevalence of CAD in HCM have varied, but up to 20% of adult HCM patients have been shown to have coexistent CAD. Myocardial ischemia in the absence of coronary atherosclerosis can occur in HCM patients, but to what extent the additional burden of significant obstructive CAD adversely impacts the prognosis of HCM patients is unknown.

**Case Report:** A 61 year-old man came to ER with chief complaints angina pectoris and also dyspnea on effort. We diagnosed him as unstable angina pectoris. We performed treadmill ECG test and the result was suggestive ischemic response. We decided to do the
coronangiography and we found severe calcification in proximal LAD and also 80% stenosis in mid LAD. The left main and left circumflex were irregular and the RCA only has 30% stenosis in mid. We did the PCI with one drug eluting stent in mid LAD, and the result was good with complete revascularization. However, until two months later, the patient still experienced angina on effort. We performed echocardiography and found the good LV function, but the patient has hypertrophic cardiomyopathy with severe pressure gradient at LVOT. The patient now is on outward medical treatment with optimal dose of beta blocker and was planned to do Alcohol ablation.

Conclusion: A case of hypertrophic obstructive cardiomyopathy in patient with coronary artery disease had been reported. We must think other cause of angina beside coronary artery disease whenever the patient is not going better, in this case HOCM as one of them. Careful physical examination and noninvasive diagnostic tools have important roles to diagnose the angina mechanism in adult patients.

Keywords: angina, hypertrophic obstructive cardiomyopathy, coronary artery disease.

MP 22. Where is the Culprit Lesion?

Sunanto Ng
University Pelita Harapan / Siloam Hospital Lippo Village, Banten, Indonesia

A 59-year-old man was admitted to the emergency department with typical chest pain for infarction since 6 hours. He had a history heart attack 1 year ago. His risk factor was smoking. Blood pressure at admission was 120/80 mmHg and heart rate was 60 bpm. No rales were found. The ECG showed sinus rhythm with ST elevation at lead II, III, and aVF; and Q wave with biphasic T wave at lead V1 to V4. Reciprocal ST depression was seen at lead I, aVL. The Tropinin T hs level was 34 pg/mL (0 – 14). He was diagnosed with acute STEMI inferior and old anterior MCI. After administration of 160 mg aspirin and 600 mg of clopidogrel, he underwent a primary PCI. The left coronary angiogram revealed a tight stenosis with eccentric lesion at the proximal LAD and significant lesion at the mid part. No significant lesion at the circumflex artery. Attempts to find the right coronary artery (RCA) were failed. Decision was made to intervene the proximal LAD. Lesion can be crossed easily, and a bare metal stent of 4.0/24 was implanted without difficulty. Patient was discharged with good condition at day 4.

A CT coronary angiography was done one month later to evaluate the RCA. It revealed a malignant course of the RCA originating from the left coronary cusp, coursing anterior to the aorta and posterior to the right ventricular outflow tract (RVOT). At clinical follow-up, patient has no limitation on exertion. He is decided to be treated conservatively with optimal medical treatment. The prevalence of an anomalous origin of the RCA (ARCA) arising from the left coronary cusp with inter-arterial course varies between 0.026 and 0.25%. An ARCA is more common than anomalous origin of left coronary artery (ALCA), but ALCA seems to be responsible for up to 85% of sudden cardiac deaths related to anomalous origins of coronary arteries.

An ARCA from the left coronary cusp with an inter-arterial course between the aorta and pulmonary artery can increase risks of myocardial ischemia, arrhythmia, syncope and sudden cardiac death. Possible mechanisms of ischemia-induced sudden death by ARCA were mechanical compression of the RCA by the aorta and pulmonary artery during physical exertion, acute angulation at the ostium of RCA and left coronary sinus, and abnormal slit-like RCA orifice in the aortic wall that collapses during exercise and vasospassm of the anomalous coronary artery. Sudden death is rare in asymptomatic patients with ARCA. Treatment is varied and debatable. Previous studies recommended that young patients (<35 years old) with ARCA and symptoms or ischemia should undergo surgery. Older patients without symptoms do not need surgical repair and strenuous exercise should be limited in these patients.

MP 23. A 49-Year-Old Man STEMI Inferior without Fibrinolytic, Second Degree AV Block Type I, and Total Occlusion with Large Occlusion Thrombus in RCA

Laurent Febrilia Yuwono¹, Dewi Ayu Paramita¹, M Triadhy Nugraha Y²

¹Cardiology and Vascular Medicine Resident Dr.Moewardi Hospital-Sebelas Maret University, Surakarta
²Cardiologist Department Cardiology and Vascular Medicine, Dr.Moewardi Hospital, Surakarta

Introduction: Thrombus is central to the pathophysiology of ST-elevated myocardial infarction (STEMI). In percutaneous coronary interventions (PCI), thrombus is especially challenging. Not only is it associated with increased abrupt vessel closure, lower procedural success, and increased major in-hospital complications, including death and myocardial infarction (MI).

Case Report: A 49-year-old man with chest pain entered our emergency room. The patient has hospitalized one day in peripheral hospital and was given one time anticoagulant subcutan injection. The first ECG in our emergency room was sinus and changed into second degree AV block on the next day. Before the PCI procedure, temporary pacemaker was inserted. The result of coronary angiography showed there is total occlusion with large occlusion thrombus in proximal RCA, 70 % stenosis in mid RCA and 60-70% stenosis in RPL. We did thrombus aspiration by using eliminate 6 fr catheter. After the thrombus was cleared, several predilation balloning done and cause ruptured plaque with new thrombus. We did thrombus aspiration for one more time. After the thrombus was cleared, we continued with several predilation balloning and insertion of drug eluting stent. The result is 0% residual stenosis with TIMI Flow III.

Conclusion: Management of non fibrinolytic in acute coronary syndrome sometimes need particularity technique in PCI.

Keywords: STEMI, without Fibrinolytic, Large Occlusion Thrombus.

MP 24. Impacts of Protein C and S Deficiencies in The Coronary Arteries and Deep Vein (Review of three cases)

Ika Christine, Abraham Ahmad, Susetyo Atmojo, Ardian Rizal, Iswanto Pratana

Dr. Soetomo Teaching Hospital, Surabaya, Indonesia

Protein C and S are important in the coagulation process. Protein S, a vitamin K-dependent physiological anticoagulant, plays a role as a non-enzymatic cofactor to activate protein C in the proteolytic degradation of factor Va and factor VIIIa. Therefore, decreased level of both proteins will lead to increased risk of thrombosis. We review three cases of patients with protein C and S deficiencies, in which manifested as acute myocardial infarction, deep vein thrombosis, and stent thrombosis. One patient with protein C and S deficiencies was a 54-years old man who presented with Acute Coronary Syndrome and underwent Primary PCI. However, the Primary PCI was repeatedly failed due to stent thrombosis. Two patients had protein C deficiency only, and both were young adults. These two patients were suspected to have protein C deficiency due to their uncommon clinical manifestations in that group of age. One patient had myocardial infarction, while the other had deep vein thrombosis. In spite of higher
risk of stent thrombosis, PCI remain the first option for myocardial infarction in this population. Proper instruction regarding the medications is necessary for this type of patients in order to prevent thrombosis.

**Keywords:** Protein C and S deficiencies, Deep Vein Thrombosis, Stent Thrombosis.

**MP 25. Eight Beats to Opacify Distal Vessels: A Very Slow Coronary Flow Phenomenon Case Report**

**Alexandra N1, Thengker A1, Hadi MW1, Lim H1,2, Danay VA1,2, Lukito AA1,2**

1Siloam Hospitals Lippo Village, Tangerang, Indonesia
2Peltia Harapan University

**Introduction:** The coronary slow flow phenomenon (CSFP) is an angiographic clinical entity, characterized by delayed distal vessel opacification in the absence of significant epicardial coronary stenosis. Normally it takes one beat to opacify distal vessels, and termed CSFP if it takes ≥3 beats. Its incidence is reported to be 1-7% of all coronary angiograms.

**Case Description:** A 49-years old male was referred for a coronary angiogram after having a syncope 2 weeks before, with left chest pain worsened by exercise, and shortness of breath relieved by rest. This patient had had acute coronary syndrome 4 years before and diagnosed as 2-vessel coronary artery disease with a 70% stenosis in mid left anterior descending (LAD), a 60% stenosis in mid right coronary artery (RCA), and a subtotal occlusion after acute marginal. The patient was not compliant with the medical therapy and advice. He still smokes cigarettes 4 packs/day these past 10 years with no exercise. The patient has atrial fibrillation, dyslipidemia, and history of asthma.

Our recent coronary angiography study to this patient revealed a very slow coronary flow phenomenon, where it needed 8 beats to opacify the distal vasculatures in RCA and left coronary artery (LCA). We also found 50% stenosis in mid LAD, and dissected distal RCA. The patient was discharged from the hospital with simvastatin and bisoprolol for a pleiotropic effect on vascular function, advised to do regular exercises and cease smoking.

**Discussion:** Most CSFP cases need 3 beats to opacify distal vessels, in this case this patient needs 8 beats. The pathogenesis and treatment are still obscure. Most common risk factors are young male smokers and dyslipidemia.

**Keywords:** slow flow coronary syndrome, young, male, smoking, dyslipidemia.

**MP 26. Pericardial Effusion Associated with Neoplastic Thrombosis**

**Edy Gunawan, Kelvin Marwali, Theo Audi Yanto, Sunanto Ng**

Faculty of Medicine, Pelita Harapan University/ Siloam General Hospital Lippo Village, Banten, Indonesia

Pericardial effusion is not a common finding in everyday clinical practice. The challenge to the clinician is to try to establish an etiologic diagnosis. We describe a case of a 46-year old male who presented to the emergency room with shortness of breath and the absence of chest pain, fever, and pericardial friction rub. The initial evaluation included an electrocardiography of atrial fibrillation, an unremarkable chest radiograph, and an echocardiography showing pericardial effusion with early signs of cardiac tamponade. Pericardiocentesis was done and yielded 300 ml of serohemorrhagic pericardial fluid in which cytological analysis revealed many neutrophils, lymphocytes, and histiocytes without any malignant cells being identified. Bilateral pleural effusion developed on the third day of hospitalization and thoracocentesis, followed by insertion of chest tube, was performed. However, dyspnea persisted even after these procedures. A chest CT scan with contrast was done and showed pericardial effusion associated with several giant thrombi, especially in right atrium and right pulmonary artery. There was also multiple lymph nodes enlargement suggesting malignant lymphoma. Catheter-directed embolectomy was performed and followed by drip of streptokinase. The patient’s condition immediately improved after embolectomy. Unfortunately, six hours afterwards the patient developed profuse bleeding, deteriorated and deceased. Although many of pericardial effusions are caused by tuberculous pericardial disease in developing countries, other causes should always be considered. When the etiologic diagnosis of pericardial effusion is not apparent, some simple clinical findings might be helpful in classifying the patients into a major etiologic diagnostic category. Cardiac tamponade without inflammatory signs might be predictive for neoplasm pericardial effusion. Catheter-directed embolectomy is an alternative treatment to thromboembolism but risk of major hemorrhage should also be considered.

**Keywords:** pericardial effusion, thrombus, malignancy, lymphoma, embolectomy.

**MP 27. Percutaneous Catheter Directed Intraarterial Thrombolysis in High Risk Acute Limb Ischemia Patient: A Case Report**

**Kelvin Marwali, Ingrid Pardede, Sunanto Ng**

Faculty of Medicine, Pelita Harapan University/ Siloam General Hospital Lippo Village, Banten, Indonesia

**Objective:** Catheter-directed administration of thrombolytic agents offers more practical advantages than the traditional surgical approach. Thrombolytic agents have been successfully employed to dissolve the occluding thrombus to open target vessels when a surgical limb salvage procedure was not possible. We present a high risk case of catheter-directed thrombolysis (CDT) in acute limb ischemia complicated with stroke.

**Methods:** Female, 72 years old, present to our emergency department with severe pain and chilling sensation on both legs 5 hours prior admission. She denied any chest pain and shortness of breath. She had a history of three vessel coronary artery disease, hypertensive heart disease and diabetes. She stopped consuming dual anti-platelets one month ago. Further examination showed irregular heartbeat of 98 bpm with ECG showing atrial fibrillation, blood pressure 154/74 mmHg, cold extremities with absence pulsation and inaudible Doppler of right dorsalis and popliteal arteries, decrease of sensoric abilities as high as thigh compare to left leg, no muscle paralysis and slow capillary refill. CT Angiography of lower extremities showed occlusion as high as distal of right external iliac artery; minimal vascualrisation as high as right superficial femoral artery with calcified plaque; thrombus along right femoral superficial, poplitea and tibialis vein; atherosclerotic artery of left extremity.

**Results:** Urgent catheter directed intraarterial thrombolysis was performed. Vascular access through left femoral artery with 5F Judgkin Right catheter crossing to right femoral artery. Angiography confirmed thrombus in right common femoral artery. Multiple side holes were made at the distal part of the catheter and the catheter was placed intralesion. Manual aspiration was done and continued with Ateplase infusion 0.05 mg/kg/hr. UHF was also started intravenous archieving target of 1.5 aPTT. Repeat angiography at 24 hour showed
no thrombus and flow was established until pedis. Unfortunately, she was deceased due to worsening ischemic stroke during hospitalisation. Brain CT scan showed no intracranial hemorrhage.

**Conclusion:** Our case presented was a high risk case for CDT. Despite the success of limb salvage, our case was complicated by ischemic stroke that might been caused by atrial fibrillation.

**Keywords:** catheter directed thrombolysis, emboli, acute limb ischemia.

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**MP 28. Stent Implantation Difficulty on The Anomalous of Ostia Origin**

**Roy Christian, Pudjo Rahasto**

**RSUD Kabupaten Tangerang**

**Introduction:** In previous studies, the reported incidence of coronary anomalies discovered in patients undergoing coronary angiography ranged from 0.64%-1.6%. Although Anomalous coronary arteries (ACAs) occur with low incidence, a high risk of sudden cardiac death because of myocardial ischemia and resultant arrhythmia are associated with them, even in the absence of atherosclerosis. Anomalous RCAs that originate from the left coronary sinus occur in 0.05%-0.1% of the general population. This is the case of a patient presenting with anomalous of ostia origin that the RCA arising from left coronary sinus.

**Case Description:** A 68 year-old Asian male who presented to the outpatient department complaining of angina pectoris in moderate exercise or activity. He known as hypertension patient who visited routinely to the outpatient department since 2014. Coronary angiography was done by radial artery approach using catheter diagnostic Tiger 5F. Left Coronary Artery angiogram was taken easily, but we failed to find the Right Coronary Artery with this catheter. We changed the catheter by catheter diagnostic Judgkin Right, and still could not find the RCA, so we performed aortography and the aortogram show the RCA arising from left coronary sinus. By changing with Judgkin Left, we took the Right Coronary artery finally. The angiography result showed RCA proximal stenosis 70% (Fig. 1), while Left Main, Left Coronary Artery and Left Circumflex were normal. Percutaneous coronary intervention (PCI) was performed with use of a 6 Fr Judkins left 4.0 cm guiding catheter (Fig. 2), which provided excellent support. The lesion was crossed with a Sion Blue guidewire. Direct stenting was accomplished with a 2.75–16 mm Cre 8 drug eluting stent delivered at 10 atm (Fig. 3). The result was good with a final stenosis of less than 5%, TIMI 3 flow (Fig. 4).

**Discussion:** The selective cannulation of aberrant coronary arteries can be difficult and time-consuming. Knowledge of the variations in coronary artery origin can help in selecting the appropriate catheters for diagnostic and therapeutic interventions. Successful stent implantation of anomalous coronary arteries relies on optimal guiding catheter seating and backup support.