Intervencijska kardiologija
Interventional cardiology

5.1.

POVEZANOST UČINKOVITE DOZE STATINA I PERIPROCEDURALNE OZLJEDE MIOKARDA U BOLESNIKA SA STABILNOM KORONARNOM BOLESTI

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Uvod: Intenzitet periproceduralne ozljede miokarda može se umanjiti periproceduralnom primjenom visoke doze statina što se pripisuje pleotropskim učincima. Učinkovitost statina u praksi se određuje mjerenjem lipidnih parametara u krvi, a učinkovita je doza ona kojom se postižu ciljne vrijednosti zadane smjernicama. Cilj ovog rada je pokazati postoji li povezanost navedene ozljede i ucinkovite doze statina.

Metode: Tijekom 4 mjeseca prikupljani su podaci bolesnika na terapiji statinom koji su podvrgnuti PCI radi stabilne angine pektoris. Intenzitet periproceduralne ozljede miokarda mjeren je koncentracijom troponina I 8 i 16 sati nakon PCI. Postizanje ciljne vrijednosti LDL-a (<1,8 mmol/L), HDL-a (>1,0 mmol/L) te triglicerida (<1,7 mmol/L) određeno je mjerenjem lipidnog profila prije PCI.

Rezultati: Ukupno je učinjeno 108 PCI, a 75 bolesnika je zadovoljavalo kriterij prethodne primjene statina. U bolesnika s ciljnom vrijednosti LDL-a (n=26) srednje vrijednosti troponina I 8 i 16 sati nakon PCI bile su 0,06 ng/mL (+/–0,101) i 0,169 ng/mL (+/–0,226). U ostalih (n=49) troponin I bio je 0,181 ng/mL (+/–0,268) i 0,344 ng/mL (+/–0,805) što nije bilo statistički značajno niti za vrijednosti 8 (p=0,06) niti za vrijednosti 16 sati nakon PCI (p=0,61). Troponin I u onih s ciljnom vrijednosti HDL-a (n=36) bio je 0,125 ng/mL (+/–0,183) i 0,225 ng/mL (+/–0,270), a onih iznad ciljne vrijednosti (n=39) iznosio je 0,156 ng/mL (+/–0,272) i 0,351 ng/mL (+/–0,934) što nije bilo statistički značajno (p=0,69 i p=0,277). U bolesnika s ciljnom vrijednosti triglicerida (n=49) vrijednosti su bile 0,123 ng/ml (+/–0,188) i 0,297 ng/mL (+/–0,787). U ostalih bolesnika (n=26) vrijednosti su iznosile 0,178 ng/mL (+/–0,304) i 0,275 ng/mL (+/–0,317) što također nije bilo statistički značajno (p=0,80 i p=0,389).

Zaključak: U našoj populaciji bolesnika pokazali smo da učinkovita doza statina ne umanjuje periproceduralnu ozljedu miokarda. Navedeno je potrebno pokazati i na većoj populaciji bolesnika.

5.2.

THE IMPACT OF MANUAL ASPIRATION THROMBECTOMY ON THE OCCURRENCE OF IN-STENT RESTENOSIS AFTER PRIMARY PCI

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Objectives: This study sought to investigate the impact of successful manual aspiration thrombectomy on angiographic in-stent restenosis in patients treated with bare metal stent implantation for ST-segment elevation acute myocardial infarction.

Background: There are very limited data for the impact of manual aspiration thrombectomy on the occurrence of in-stent restenosis in bare metal stents.

Methods: This was a prospective, randomized, single center study. Patients (N = 60) presenting within 12 hours of STEMI symptoms onset were randomized to primary PCI with (N = 30) or without (N = 30) upfront manual aspiration thrombectomy using Export aspiration catheter (Medtronic Inc., Minneapolis, Minnesota, USA). All patients underwent control coronary angiography after 6 months.

Results: Baseline, clinical, and angiographic preprocedural findings did not differ between the two groups. Patients that underwent successful manual thrombus aspiration had significantly higher minimal lumen diameter (MLD) after 6 months (2,25 + 0,90 vs. 1,63 + 0,76, P = 0,005), significantly lower percentage

diameter stenosis (28,81% vs. 45,03%, P = 0,017) and significantly lower late lumen loss (0,73 + 0,84 vs. 1,18 + 0,79, P = 0,035).

Conclusions: Successful upfront manual aspiration thrombectomy during primary PCI showed beneficial effects on reduction of in-stent restenosis after bare metal stents implantation compared with standard primary PCI.

5.3.

TRANSRADIAL APPROACH FOR CORONARY ANGIOGRAPHY IN EXTREME AGE POPULATIONS: SUCCESS RATE, FAILURE REASONS AND COMPLICATIONS FROM SINGLE CENTER EXPERIENCE

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Introduction: Transradial approach(TRA) for coronary angiography has become widely adopted in recent years due to its proven beneficial outcomes over transfemoral(TFA) one. Experience with TRA in extreme age populations such as octagenarians is, as expected, low and poorly documented.

Methods: This is retrospective,cohort matched comparison, from Cath lab database that is filled at the time of the procedure. Here we show our data for 2 distinct populations: younger than 45 years(Group A), and older than 80 years(Group B).

Results: From April 2010 till August 2012 we performed 1574 coronary angiographies at General Hospital's Zadar Cath lab. 1300(82,6%) were performed via TRA. There were 60 patients in Group A(<45 years) and 85 in Group B(>80years). TRA was used in 88,3% for Group A and 66% for Group B. There were no failures for TRA in younger cohort while we had 12% failure rate for older cohort. The most common failure reason was unsuitable anatomy, with inadequate radial artery diameter or branching with acute angles being most readily distinguishable. Except one radial artery dissection in Group B patient with uneventfull clinical follow up, no other complications occured.

Conclusion: As expected TRA is easily accomplished in younger cohort. Our data support the notion that this technique is also safe and feasible for older patient such as octagenarians with only 12% failure rate. Site specific complications rate is low and presumably less serious as for TFA.

5.4.

SREDNJEROČNI KLINIČKI I EHOKARDIOGRAFSKI REZULTATI PRAĆENJA BOLESNIKA SA TRANSKATETERSKOM IMPLANTACIJOM AORTNE VALVULE

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Uvod: Cilj rada je prikazati rezultate praćenja nakon transkateterske ugradnje aortne valvule (TAVI) u visoko rizičnih bolesnika sa aortnom stenozom.

Metode: Kroz 2 godine u 18 bolesnika učinjena je TAVI. Bolesnici su evaluirani kao visokorizični za klasičnu zamjenu aortne valvule. U 13 bolesnika korištena je Medtronic CoreValve®, a u 5 Edwards Sapien XT®.

Rezultati: Srednja dob bolesnika je 79,8 godina; 50% žene, sa mortalitetom po EuroSCORE-u od 17,8±11,8% uz STS score 22,6±11,6%. Preoperativna ehokardiografska mjerenja mjerenja pokazala su srednju areju aortne valvule od 0,65 cm2 sa srednjim gradijentom od 57,6±16,4mmHg. U jednog bolesnika postupak implantacije kompliciran je migracijom valvule sa mjesta implantacije te zamjenom aortne valvule biološkom protezom. U bolesnika kojima je transkatetrski implantirana aortna valvula postoperativni sred-

nji gradijent iznosio je 9,31±0,27 mmHg. Prosječni stupanj paravalularne aortne regurgitacije (AR) bio je 1.2 angio stupanj. Rano preživljenje iznosi 100%, dok je jedan bolesnik umro 4 mjeseca nakon implantacije zbog pneumonije. U prvih 30 dana jedan je bolesnik imao CVI a jedan plućnu emboliju sa potpunim kliničkim oporavkom, kod dvoje je bolesnika zbog totalnog AV bloka bila potrebna ugradnja trajnog elektrostimulatora. Prosječno vrijeme praćenja je 6 mjeseci (3–12 mj). Zabilježeno je značajno poboljšanje NYHA statusa (preoperativno 2.6, u praćenju 1.1 stupanj). Zabilježeno je dodatno smanjenje srednjeg gradijenta na 7,9±3,2mmHg te smanjenje paravalvularne AR na 1 angio stupanj, kao i smanjenje stupnja mitralne regurgitacije sa 2.3 na 1.2 stupanj.

Zaključak: TAVI dobiva važno mjesto u liječenju simptomatskih visokorizičnih bolesnika sa teškom aortnom stenozom. Perioperativnim planiranjem i stjecanjem iskustava komplikacije se velikoj mjeri izbjeći. Rani postoperativni rezulatati te rezultati praćenja su ohrabrujući i pokazuju značajno kliničko poboljšanje kod bolesnika uz izvrsne ehokardiografske pokazatelje.

5.5.

PRIMARNA PCI VERSUS FIBRINOLITIČKA TERAPIJA U BOLESNIKA SA STEMI – NAŠA ISKUSTVA

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Posljednjih 10ak godina potpuno je jasno da je primarna perkutana koronarna intervencija (pPCI) superiorna metoda liječenja akutnog infarkta miokarda sa elevacijom ST segmenta (STEMI) u odnosu na liječenje fibrinolizom. Upravo stoga od 2005.godine u Hrvatskoj počinje organizacija centara intervencijskog liječenja u Hrvatsku mrežu pPCI, a već slijedećih godina pokriva se gotovo sav teritorij Republike Hrvatske. U tom se pogledu Dubrovačko-neretvanska županija razlikuje od ostalih dijelova naše zemlje. Riječ je o području na kojem živi 122873 stanovnika, a tijekom turističkih mjeseci broj osoba na području ove županije se poveća 3–4 puta. Županijska bolnica Dubrovnik glavni je nositelj skrbi za bolesnike sa STEMI. Nadređeni tercijarni centar (KBC Split) nalazi se 214 km udaljen od ŽB Dubrovnik, za što preći su u optimalnim uvjetima kolima hitne medicinske pomoći potrebna 3 sata, a helikopterskim prijevozom najmanje 2,5 sata. Uzimajući sve u obzir. od 2009.godine u ŽB Dubrovnik s radom je započeo Laboratorij za kateterizaciju srca i krvnih žila. Tijekom ovih prvih godina pPCI rađena je periodički, u terminima kada su interventni kardiolozi iz drugih centara bili angažirani u našem gradu. Cilj ovog rada je usporedba rezultata fibrinolitičke terapije i pPCI u bolesnika sa STEMI primljenih u našu ustanovu unutar 6 sati od početka bolova u prsištu. Podaci su prikupljeni retrospektivno (veljače 2009 – srpanj 2012). Ukupno je bio ubuhvaćen 151 bolesnik (110 muškaraca i 41 žena). Usporedili smo nekoliko parametara: dob, dužinu bolničkog liječenja, komplikacije (smrt, veće krvarenje), srčane aritmije, učestalost srčanog popuštanja, ehokardiografski procijenjenu EFLV najmanje 1 mjesec od akutnog koronarnog sindroma i učestalost nastanka aneurizmi ventrikla. Rezultati našeg istraživanja podupiru nastojanja i napore koje ulažemo kako bi se uspješno uključili u Hrvatsku mrežu pPCI obzirom da su rezultati usporedbe gore navedenih parametara gotovo bez izuzetka u prilog pPCI.

5.6.

PSIHOSOCIJALNE KARAKTERISTIKE KAO ČIMBENICI RIZIKA KORONARNE BOLESTI

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Akutni emocionalni stres češće je povezan s razvojem akutnog infarkta miokarda u žena nego u muškaraca. Učestali i prolongirani stres utječe na porast krvnog tlaka i srčane frekvencije te simpatičku stimulaciju miokarda, smanjuje utjecaj parasimpatikusa, te povećava minutni volumen i perifernu rezistenciju,

što može dovesti do početka razvoja koronarne bolest. Također, stresom inducirani porast srčane frekvencije i krvnog tlaka dovodi do oštećenja endotela čineći ga tako prijemčljivijim za razvoj upalnog procesa i nakupljanja lipida. Akutni stres može povisiti i viskoznost krvi smanjenjem volumena plazme, što povećava koagulabilnost i potrebu za kisikom cirkulirajuće hiperviskozne krvi. Također dovodi i do porasta adrenalina što može dovesti do aktivacije i agregacije trombocita

Ispitanici i metode: U ispitivanje je uključeno 1284 bolesnika hospitaliziranih zbog koronarne bolesti u Hrvatskoj. Psihološki status je ispitivan prema standardiziranom upitniku te upitniku SF 36.

Rezultati: Poslovni stres kao mogući čimbenik rizika koronarne bolesti ima 12,19% bolesnika, 15% muškaraca u kontinentalnoj Hrvatskoj ima poslovni stres u vidu neuspjeha ili gubitka posla dok u mediteranskoj 8,7% bolesnika.

18% bolesnika hospitaliziranih zbog akutne koronarne bolesti kontinentalnoj Hrvatskoj ima poslovni stres a u mediteranskoj Hrvatskoj 9%.

7,73% bolesnica ima poslovni stres, i nema značajnih razlika s obzirom na akutnu ili kroničnu bolest i prema regiji. Muškarci u kontinentalnoj regiji češće navode obiteljski stres kao mogući čimbenik rizika koronarne bolesti ($p=0,0001$), dok u žena nema značajne razlike. Prema rezultatima SF-36 ispitanici s koronarnom bolešću u odnosu na opću populaciju u Hrvatskoj se lošije osjećaju u svim parametrima koji ocjenjuju fizički i psihički status u odnosu na opću populaciju ($p<0,05$). Kvaliteta psihičkog i fizičkog statusa je bolja u muškaraca u svim ispitivanim varijablama upitnika SF-36 u odnosu na žene.

5.7.

THE ROLE OF FRACTIONAL FLOW RESERVE IN ASSESSMENT OF ATHEROSCLEROTIC CORONARY LESIONS SEVERITY IN PATIENTS WITH DIABETES MELLITUS

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Objectives: The objective of this study was to evaluate the usefulness of the fractional flow reserve (FFR) measurements in determining the degree of coronary stenosis and to establish the predictive value of FFR in the context of preventing major adverse cardiac event (MACE) in patients with diabetes mellitus (DM) as compared to the patients without DM.

Methods: The sample was collected at the Centre Hospitalier Universitaire, CHU Henri Mondor in Paris, France. The study included a total of 286 patients undergoing coronary angiography and/or percutaneous coronary intervention (PCI) due to suspected or established coronary artery disease (CAD). There were 103 patients with and 183 without DM. During the study, we measured relevant demographic and clinical data, laboratory findings and parameters related to coronarography and FFR. The duration of the designed clinical follow-up was 24 months. Immediately after performing the coronary angiography, the FFR was measured in order to evaluate one or more intermediary stenoses and decide on further treatment.

Results: In comparison with the control group, patients with DM had a significantly longer stay in hospital, significantly higher values of ITM, while a notably greater number of them suffered from dyslipidemia and arterial hypertension. Patients with DM and FFR values $\geq 0,8$, did not have statistically more MACEs than patients without DM, regardless of the reference diameter of the culprit coronary artery during the two-year follow-up. The incidence of complications during the FFR measurement is markedly low.

Conclusion: FFR is a safe and reliable invasive method, characterised by a low incidence of complications and used for screening significant atherosclerotic stenoses in patients with DM. FFR $\geq 0,8$ excludes a possible occurrence of MACE in patients with DM in a two-year time period.

5.8.

LIJEČENJE KOMPLIKACIJA U INTERVENTNOJ KARDIOLOGIJI – PRIKAZ ODABRANIH SLUČAJEVA

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Uvod: Komplikacije invazivnih kardioloških zahvata su rijetke, ali potencijalno katastrofalne. Mortalitet i morbiditet ovih bolesnika je visok, osobito ako se komplikacije odmah ne prepoznaju i liječe.

Cilj: Obzirom da preživljenje ovih bolesnika ovisi o brzoj intervenciji operatera, ove komplikacije je nužno anticipirati i znati liječiti.

Metode i bolesnici: Prikazano je pet interventnih kardioloških zahvata, nastale komplikacije i njihovo liječenje. Izabrani su interventni zahvati sa životno ugrožavajućim komplikacijama iz različitih područja inteventne kardiologije. Od pet prikazanih zahvata tri su intervencije na koronarnim arterijama: disekcija LMCA i ascendentne aorte za vrijeme elektivne PCI Cx, ruptura kalcificirane arterije i »gubitak stenta« nakon PCI RCA za vrijeme NSTEACS, te opetovana trombotska okluzija RCA i migracija tromba usprkos opsežnoj trombaspiraciji za vrijeme PCI RCA u STEMI. Prikazan je jedan bolesnik s masivnim perioperativnim krvarenjem kod implantacije torakalne endovaskularne proteze (TEVAR) i jedan bolesnik s iznenađujućom subekspanzijom proteze na mjestu kalcifikata aortalne valvule uz rezidualni gradijent tlaka i značajnu aortnu regurgitaciju kod implantacije aortne valvule putem arterije supklavije (TAVI).

Zaključak: Komplikacije interventnih kardioloških zahvata su rijetki, ali potencijalno katastrofalni događaji ako se urgentno ne liječe. Najvažniji čimbenici koji smanjuju broj ovakvih komplikacija i mortalitet su ispravna indikacija za zahvat, iskustvo operatera i kardiološkog laboratorija, anticipiranje i promptno prepoznavanje komplikacija te brza i ispravna intervencija.

5.9.

WHAT IS THE PREFERRED TREATMENT STRATEGY IN LCA AND MVD PATIENTS WITH ACS?

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For this very high-risk subgroup of patients we do not have efficient data, and majority of them are transferred from stable coronary disease. According to guidelines, in STEMI, CABG in the acute phase is limited, and may be indicated after failed PCI, cardiogenic shock, or mechanical complications. In NSTEMI, surgery should be performed during the same hospital stay in patients with LMCA of 3VD involving the proximal LAD and should be favored in diabetic patients. In the real world, patients with CAD received more recommendations for PCI and less for CABG than indicated in the guidelines.

Looking at randomized trials and registries, results in patients with ULMCA are better after surgery comparing with PCI. In spite of that, more and more patients are treated with PCI. In our own experience, 51 patients with LMCA stenosis, presenting with ACS (age 69, predominantly male, 25% with shock), majority (92%) was treated by PCI, 78% received DES, and only 3(6%) patients were sent to CABG. The in hospital mortality was high (10 patients, 21%), including 2 deaths during diagnostic procedure.

Patients with MVD are heterogeneous group, so in unstable situations a culprit only (if revealed) can be treated with PCI. In MVD patients with STEMI, culprit vessel should be treated internationally! Staging was strongly recommended in the HORIZONT trial. Comparison between PCI and CABG in ACUITY trial reveled the same mortality at 1 month and 1 year, Outcomes from patients with MVD following primary PCI in GRACE registry showed low mortality in patients undergoing staged PCI after primary PCI in STEMI (lower than CABG in 6 month follow up!) Use of FFR in ACS (FAME study) shows similar risk reduction of MACE as in stable patients.

Great percent of MVD patients with NSTEMI are good candidates for PCI regardless of treating lesions in one or two sessions. The best treatment strategy is carefully consideration of therapy for every individual patient.

5.10.

AKUTNI I DUGOROČNI REZULTATI REVASKULARIZACIJE BIOMIME SIROLIMUS ELUTING STENTOM

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Biomime drug eluting stent koji luči sirolimus (SES, sirolimus eluting stent). Pošto se radi o relativno novom stentu na tržištu, s relativno malo podataka o njegovoj učinkovitosti htjeli smo istražiti sigurnost i efikasnog tog stenta. Istraživanje je provedeno na grupi pacijenata kojima je biomime stent ugrađen u našoj ustanovi.

Metode: Učinjena je retrospektivna analiza svih pacijenata kod kojih je ugrađen Biomime stent u razdoblju od 18.6.2011 do 12.6.2012 u našoj bolnici.. Učinjen je »follow up« pomoću standardiziranog telefonskog upitnika. Primarni »end point« bio je MACE (srčana smrt, infarkt miokarda, CABG, TLR-PCI)

Rezultati: U studiju su uvršteni svi pacijenti kod kojih je u razdoblju od 18.6.2011 do 12.6.2012 kod kojih je implantiran Biomime stent,ukupno 125 pacijenata. Četvoro pacijenata nismo uspjeli kontaktirati, te se finalna grupa sastojala od 121 pacijenata. Svi pacijenti su telefonski kontaktirani, te su odgovorili na standardiziran upitnik.

Kod niti jednog (0.00%) pacijenta nije učinjen ponovni dilatacijski zahvat na žili koja je revaskularizirana Biomime stentom (TLR). Kod 1 (1.21%) pacijenta došlo je do infarkta na mjestu implantacije Biomime stenta (tromboza stenta 7 dana nakon implantacije). Jedan (1.21%) pacijent je preminuo (toan uzrok smrti nije poznat). Niti jedan pacijent (0.00%) nije imao CVI.

Zaključak: Učinjena je retrospektivna studija na 121 pacijenata kojima je implantiran Biomime stent. Follow up je bio u trajanju od 7.5+/–4.5 mjeseca i izvršen je telefonski.

Sveukupni MACE (TLR 0.00%, IM 1.21%, smrt 1.21%, CVI 0.00%) je 2.42%, što je sasvim komparabilno sa rezultatima studija drugih SES stentova.

5.11.

HOMOLATERAL RIGHT TRANSRADIAL APPROACH FOR CORONARY ANGIOGRAPHY AFTER FAILED TRANSULNAR ATTEMPT DUE TO DIFFUSE RIGHT ULNAR ARTERY SPASM

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Introduction: Homolateral forearm approach in the same setting after the failure of either ulnar/radial attempt is controversial due to possible hand ischaeamia and only few cases has been reported, all without hand ischaemia.

Case report: A 46-year old male patient was admitted to our hospital for coronary angiography due to new onset angina pectoris. The patient's preference for coronary angiography was forearm approach. After modified Allen's tests were assessed as positive, we chose the right ulnar approach because its pulse was stronger than radial. The right ulnar artery was easily cannulated, but during sheat insertion certain resistance was felt which induced diffuse generalized spasm of the right ulnar artery which persisted even after application of vasodilators (nitrates and verapamil). However there were no signs of hand ischemia and we decided to switch to homolateral right radial approach. The right radial artery was easily cannulated and the procedure was completed without complications. Two vessel coronary artery disease was diagnosed (LAD and

LCx) and the surgical revascularization was proposed because the patient was allergic to Aspirin. Immediately after completion of procedure both sheats were removed and hemostasis was secured with two TR-bands for six hours. The pulses of radial and ulnar artery were regularly checked overnight and they were normal. Routine Doppler-ultrasonography check up was done the next day and it showed normal flow in both arteries of the right forearm.

Comment: This case shows that homolateral transradial approach may be the safe and alternative viable option for coronary angiography after the failure of transulnar attempt. In addition, in our case transulnar attempt was unsuccessful due to the generalized diffuse spasm of the ulnar artery caused by the sheat insertion which is quite unusual because the ulnar artery has less alpha-adrenergic receptors than the radial artery and is thought to be less prone to spasm.

5.12.

DRUG ELUTING BALLOONS IN ACUTE CORONARY SYNDROME

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Case: A 80-year-old woman with history of arterial hypertension was transfered in 2010 to our hospital from a small county hospital after successful fibrinolysis of an acute inferior STEMI. On arrival the patient didn't have any chest pain, ECG showed minor ST elevation with Q waves in inferior leads.

Coronary angiography revealed two vessel disease: occlusion of mid LAD and multiple significant stenosis of proximal and mid RCA. Direct stenting of the mid and proximal RCA with 2 BMS was performed after which »no flow« occurred. After intracoronary eptifibatide application and two additional BMS TIMI 2–3 flow was restored. Two days later the patient was transferred back to the county hospital with optimal medical therapy (statin, beta blocker, ACE inhibitor, aspirin and clopidogrel). Evaluation of myocardial ischemia (stress echo or SPECT) was suggested regarding elective coronary intervention on occluded LAD.

The patient never returned for LAD intervention. In February 2012 she was transferred from the same county hospital because of unstable angina. Her initial myocardial enzymes were normal, ECG showed Q waves in inferior leads.

Coronary angiography revealed a patent RCA with no restenosis, TIMI 1 flow in D1 and occlusion of mid LAD. Because of typical clinical symptoms PCI of CTO LAD was attempted. After successful wire crossing, predilation of bifurcation lesion (Medina 1,1,1) with conventional balloons was performed. Afterwards drug eluting balloons were used in both vessels with an optimal result, no dissection and TIMI 3 flow. The patient was discharged from our hospital with optimal drug treatment and DAPT recommendation for 12 months.

Conclusion: We can assume that DEB only technique is an optional method in some patients with acute coronary syndromes. They can be used for ostial and bifurcation lesions with optimal results. Further research must be done to confirm this hypothesis.

5.13.

PCI OSTIAL LMCA IN YOUNG WOMAN PRESENTED AS STEMI MYOCARDIAL INFARCTION

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The aim of this short report was to present PCI LMCA intervention.

Clinical presentation: 44 year old woman was transfered from OB Vinkovci to Cardiology KBC Osijek, with symptom of chest pain radiating into the left arm. She had no known drug allergies, she is smoker. She had blod pressure 150/90mm Hg, cardiopulmonal status was normal.

ECG presentation at administration: sinus rhytm, heart rate 95/min, ST segment elevation on II, III, aVF, V4-V6 leads.

PCI intervention and procedure: Right dominant. LMCA ostial significant (70%) eccentric ruptured unstable plaque. Other epicardial arteries were without significant stenosis.

She was immediately implanted IABP (intra aortic balloon pump). Cardiothoracic surgeon was informed to be stand by for procedure that followed, direct PCI LMCA: two wires were put into LAD and Cx. Next, stent Liberte 5,0x12 at 18 atm, was implanted, with dilatation of an ostium with balloon from the stent at 20 atm. She had optimal flow and final result.

Echocardiography: Mild hypokinesia of apical septum.

Conclusion: With STEMI myocardial infarction it is common to expect total occlusion of the artery. Here speciality was in the fact that the LMCA was not occluded as with characteristic STEMI feature, but had highly signifficant stenosis with unstable plaque.

Further, ECG showing ST segment elevation in II, III, aVF, V4-V6 leads, suggests occlusion of a LAD or Cx, which was not here.

Commonly in LMCA stenosis recommendation is to use drug eluting stent. Some suggest the usefulness of an IVUS (intravascular ultrasound) to evaluate stent expansion. Furthermore it is practise to do predilatation of an ostium with the balloon. These recommendations were not done. We had no DES stent available, nor IVUS. We had no noncompliement balloon of adequate size. Pacient was unstable, she was implanted IABP and we had cardiothoracic surgeon stand by. We decided to do direct stenting. Immediately after intervention the patient was stable.

5.14.

THREE INTERESTING TEVAR CASES

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We present a rare complication after successful TEVAR. There are 62 cases of the retrograde aortic dissection reported in the literature (1,33% incidence), with mortality of 42%! Majority of the events are procedure related. In our case the retrograde dissection was possible graft related, diagnosed 24 hours after the implantation, and surgically treated.

We also present a successful treated large type 2 leak after TEVAR with an Amplazer device. The method is known, but by our knowledge, first time performed in our country.

The 3th case is a type B dissection treated conservatively, changing from classic dissection to ulcer-like projection. The phenomenon is known in the literature. Because of expected 70% late complication (aortic enlargement, progress to dissection, aortic rupture), the patient was successfully treated with TEVAR.

All tree patients are in FU without complications so far. With this three presented cases we showed that, conducting TEVAR program, we faced, a spectrum of unusual events including rare complication (case 1), a superb complication solution (case 2) and an unusual natural history of type B dissection, satisfactory resolved.

5.15.

UTJECAJ PRODUŽENE PRIMJENE ENOKSAPARINA NA INCIDENCIJU ISHEMIJSKIH KOMPLIKACIJA I KRVARENJA U BOLESNIKA NAKON UGRADNJE KORONARNOG STENTA

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Cilj ovog ispitivanja bio je pokazati dali produžena primjena enoksaparina može smanjiti učestalost ishemijskih komplikacija nakon ugradnje koronarnog stenta. U istraživanje su uključena 73 bolesnika s ugrađenim stentom, koji su randomizirani ili na produženu primjenu enoksparina ili da ne dobivaju enoksparin.

Dobiveni rezultati pokazali da uz enoksaparin postoji trend smanjenja incidencije kombinranih ishemijskih događaja (smrt, nefatalni infarkt, angiografska restenoza i revaskularizacija ciljne lezije) nakon šest mjeseci (16.2% vs. 33.3%; P=0.090). Smrtnog ishoda, tromboze i infarkta nije bilo. Primjena enoksaparina pokazala se sigurnom bez zabilježenih velikih krvarenja. Analizom zasebnih događaja pokazano je da je primjena enoksaparina značajno smanjila kliničku restenozu (13.5% vs. 33.3%; p=0.045), i pokazala trend smanjenja angiografske restenoze (P=0,09). Kao predskazatelji učinkovitosti nađene su granične vrijednosti troponina T, CRP-a niži od 3.5 i fibrinogen niži od 3.7, kao i promjer stenta < 3mm. Prema regresijskom modelu, primjena enoksaparina se pokazala kao značajan predskazatelj smanjenja restenoze (OR 28,78).

Zaključno se može reći da je u ovom ispitivanju dokazano da je enoksaparin učinkovit u smanjenju ishemijskih komplikacija uz prihvatljiv rizik od povećanja malih krvarenja.

Znanstveni doprinos ovog istraživanja sastoji u unaprijeđenju optimalnog terapijskog pristupa bolesnicima nakon perkutane revaskularizacije miokarda.