IMIDŽING U ISHEMIJSKOJ BOLESTI SRCA
IMAGING IN ISCHEMIC HEART DISEASE

41 Akutni infarkt miokarda kod bolesnika sa non-compaction kardiomiopatijom

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Savremene studije kardijalnog imaginga ukazuju na non-compaction kardiomiopatija (NCCM) ne mora značiti samo razvojnu anomaliju miokarda leve komore, već može nastati tokom života. Tome u prilog govori i sledeći slučaj.

Prikazan je slučaj 60-godišnjeg muškarca sa akutnim infarktom (AMI) anteriornog zida miokarda sa ST elevacijom. Radi se o pacijentu koji se leči od dijabetesa i ima verifikovane mikro i makrovaskularne komplikacije. Pre petnaest godina je imao infarkt miokarda donjeg zida i desne komore, a godinu dana kasnije mu je urađena perkutana koronarna intervencija i implantiran jedan stent u LAD. Pacijent je primljen na odeljenje kardiologije zbog produženog bola u grudima, a elektrokardiografski je registrovana ST elevacija u prekordijalnim odvodima, sa znacima srčane insuficijencije – Killip II. Lečen je klasičnom terapijom. U dokumentaciji koju je priložio nije do sada evidentirano postojanje nekompaktnog miokarda LK. Tokom hospitalizacije je koronarografski registrovana trosudovna koronarna bolest sa restenozom prethodno implantiranog stenta i bolest glavnog stabla leve koronarne arterije, a transtorakalnom ehokardiografijom je registrovani su kriterijumi za NCCM sa izraženom trabekulacijom lateralnog i anteriornog zida LK kao i prostranom akinezijom zidova, značajno oštećenom globalnom sistolnom i dijastolnom funkcijom. Intrahospitalni tok je komplikovan manifestnom srčanom insuficijencijom – Killip III, sa pozitivnom efektom na medikamentnu terapiju.Ovo je drugi slučaj pacijenta sa NCCM i koronarnom bolešću do sada opisan u literaturi. Cilj budućih istraživanja je da procene da li je NC poseban oblik kardiomiopatije ili je reč o posebnom miokardnom fenotipu različitih kardioloških oboljenja.

42 Tumor necrosis factor alpha – a predictor of left ventriculčar dysfunction after STE-ACS

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Introduction.Inflammation has a main role in the pathogenesis of atherosclerosis, as well as in the development and rupture of the atherosclerotic plaque. Tumor necrosis factor alpha (TNF-α) is pro-inflammatory cytokine and is secreted by activated macrophages and T cells and functions as a mediator of vascular inflammation. Although there is evidence that production ofTNF-α is increased in unstable atherosclerotic plaques and its concentrations are raised in patients with acute myocardial infarction,the roleof TNF-α as a predictor of outcome in these patients is controversial.

Methods.We studied 38 patients with ST-elevation acute coronary syndrome (STE-ACS)undergoing primarypercutaneous coronary intervention (PCI) and manual thrombus aspiration and evaluated the influence of TNF-α on left ventricular (LV) function.TNF-αlevels were measured by ELISAin peripheral and coronary plasma samples during pPCI and at 6 months follow up.Transthoracic echocardiography (TTE) was performed after PCI and at 6 months' follow and correlated with echocardiographic assessments of parameters of left ventricular (LV) structure and function, including global strain.

Results.Intracoronary TNF-α levels (60.4+11.5 pg/ml) were significantly higher thanin peripheral blood (54.6+13.6 pg/ml, p<0,01). At 6 months, these differences remained statistically significant (intracoronary 45.3+20.0 pg/ml, versusperipherally 35.1+21.5 pg/ml; p<0,01), and correlatedwith decreased ejection fraction and reducedglobal longitudinal strain of the left ventricle (p<0,01).

ConclusionThe results of our study shownthat in STE-ACS elevated levels ofcirculating TNF-α contribute to adverse left ventricular remodeling. TNF-alpha could be used as predictor of outcome and predictor of of heart failure in patients with STE-ACS.

43 Dvodimenzionalana ehokardiografija u akutniom infarktu miokarda

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Dvodimenzijska ehokardiografija (2D) je metoda koja nam omogućuje da precizno izmerimo infarktno područje, procenimo funkciju leve komore (LK), predvidimo pojavu popuštanja leve komore, da izvedemo prognozu. 2D je u tom pogledu metoda izbora i smisao njene primene zasniva se na činjenici da je akutni infarkt miokarda (AIM) bolest segmentnog karaktera koja dovodi do poremećaja mehaničke funkcije LK.

Metodologija: Ispitano je 325 uzastopnih bolesnika (B) sa prvim AIM bez prethodne bolesti miokarda, valvulopatija i operacija na srcu, podeljenih u dve grupe. Prvu grupu su činili B sa malim AIM (CK≤800 U/l) 127/325 (39,08%), a drugu B sa velikim AIM (CK>800 U/l) 198/325 (60,92%). Kod svih B učinjena je 2D. Semikvantitativnim, visokosenzitivnim, segmentnim pristupom, a prema preporukama Američkog udruženja ehokardiografista, podelom zida LK na 16 segmenata i analizom njihove pokretljivosti vršena je procena veličine oštećenja LK uz izračunavanje skor indeksa pokretljivosti zida LK (WMSI). Viši WMSI odgovara većem oštećenju LK. Takođe, vršeno je izračunavanje i ejekcione frakcije LK (EF) metodom po Simpsonu.

Rezultati:
CK≤800 U/l (127B) CK>800 U/l (198B) p
Starost (god) 56,06±10,80 (28-84) 55,00±10,36 (29-79) NS
Žene (B) 28 (22,05%) 35 (17,68%) NS
Prednji AIM (B) 57 (44,88%) 110 (55,56%) NS
Srčana insuficijencija (B) 9 (7,09%) 37 (18,69%) =0,006
EF (%) 53,14±6,31 45,41±9,93 =0,000
WMSI 1,35±0,35 1,60±0,46 =0,000

Zaključak: Izračunavanja WMSI i EF su lako primenjive, senzitivne metode 2D, a dobijeni rezultati su u dobroj korelaciji. Primenom ovih metoda 2D lako se može izvršiti identifikacija B sa velikim AIM i visokim rizikom za nastanak popuštanja leve komore. Snižena EF i povišen WMSI su najmoćniji prediktori pojave komplikacija, težeg kliničkog toka i lošije prognoze kod B sa AIM.

44 Relation between SYNTAX score and left ventricular remodeling after first ST elevation myocardial infarction

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Aim: to investigate connections between left ventricular remodeling (LVR) after first ST elevation myocardial infarction (STEMI) and severity of coronary artery disease (CAD) obtained by true objective quantification – SYNTAX score (SS).

Methods: Total of 122 patients aged 55±8 with first STEMI after primary percutaneous coronary intervention (pPCI) was prospectively enrolled. Doppler echocardiography and peak systolic strains assessed in first week and after 6 months. According to the SS level patients were classified into 3 group: low (0-22), intermediate (23-32) or high SS (>33). LVR was defined as increase of LV diastolic volume index (EDVI) >20% and decrease of global LV ejection fraction (EF) during 6 months. According to LVR patients were divided in groups: I (maladaptive) and II (adaptive).

Results: Close correlation between EDVI and end-systolic volume index (ESVI) and SS in first week after STEMI (p = 0.004, p = 0.002, respectively) as well as with EF (p = 0.012) were obtained. After 6 months, correlations were modestly significant (EDVI- p=0.024, ESVI- p= 0.028). Global SS difference showed a trend toward significance between groups I and II (7.06±1.27 vs. 5.78±1.44, p=0.076), but EF and peak systolic LV strains were not significantly different between SS groups (p=ns).

Conclusion: Severity of CAD has an impact of early LVR, but influence is less significant in late phase of LVR. Patients with maladaptive LVR after first STEMI have higher SS at primary angiography, with trend toward significance. LV mechanics was not significantly related to SS at patient's admission.

45 Comparison of left ventricular remodeling process after first myocardial infarction in patients with and without diabetes mellitus

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Background: Diabetic patients are at increased risk of heart failure (HF) development after myocardial infarction (MI). Nowadays, doubtful data are present about the role of adverse left ventricular remodeling (LVR) after MI in those patients. Aim: we evaluated post MI LVR in patients with and without diabetes mellitus (DM) during 6 months

Method: Total of 178 patients with first acute MI -135 (76%) male, aged 55.58 ± 8.3 years, treated with primary percutaneous intervention (pPCI) was enrolled in the study. Doppler echocardiography was assessed in first week and after 6 months. LVR was defined as increase of LV diastolic volume index (EDVI) >20% and decrease of global LV ejection fraction (EF) during 6 months. According to LVR patients were divided in groups: I (maladaptive) and II (adaptive).

Results: According to the presence of DM at admission, patients divided in two groups: with 61pts (35%) and without DM. Those two groups were similar according to the risk factors presence (hypertension, cigarette smoking, cholesterol level, triglycerides, C reactive protein), as well according to medicament therapy. Some of electrocardiographic characteristics such as number of leads with ST elevation at admission and angiographic data (number of involved arteries) were similar in both groups. There were no significant differences in LV dimensions, volumes and global systolic function in first week after MI as well as after 6 months. Maladaptive LVR was present in 22% of non-diabetic patients and 29% diabetic patients (p=0,32)

Conclusion: Maladaptive LVR in patients with DM occurs more often, but not significantly; possibly, other patterns of LV remodeling or other mechanisms are associated with increased risk of HF development.

46 Uticaj metaboličkog sindroma na oporavak koronarne mikrocirkulacije infarktne regije nakon pPCI.

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Cilj savremene terapije infarkta miokarda sa elevacijom ST segmenta (STEMI) nije samo što pre otvaranje epikardne infarktne arterije, već i obezbeđivanje adekvatne mikrocirkulacije infarktne regije i što bolje tkivne reperfuzije. Na ovaj cilj utiču brojni faktori. Cilj studije: kod bolesnika sa prvim prednjim STEMI lečenih pPKI ispitati uticaj prisustva metaboličkog sindroma (MetS) na oporavak koronarne mikrocirkulacije.

Metod: kod 103 bolesnika sa prvim prednjim STEMI 2. i 7. dana nakon pPCI urađen je transtoraksni ehokardiografski pregled sa određivanjem rezerve koronarnog protoka (RKP) infarktne arterije (LAD), kao parametra procene koronarne mikrocirkulacije infarktne regije.

Rezultati: Bolesnici sa MetS imali su niže vrednosti RKP i 2. dana (1.80±0.37 vs 1.93±0.39, p=0.081) i 7.dana (1.02±0.33 vs 2.14±0.39, p=0.003) nakon pPCI. Sa povećanjem broja komponenti MetS (od jedne do svih pet komponenti) vrednost RKP se progresivno smanjivala (2.25 vs 2.07 vs 1.97 vs 1.9 vs 1.83, p=0.015). Prisustvo MetS je bilo univarijantni prediktor smanjene RKP (OR 3.281, p=0.009), ali ne i nezavisan prediktor u multivarijantnoj analizi koje je obuhvatila parameter kao što su pokazatelji glikometaboličkog stanja, nivo lipida, hsCRP, ox-LDL, adiponektina i prisustvo dijabetesa.

Zaključak: kod STEMI bolesnika lečenih pPKI prisustvo metaboličkog sindroma može negativno uticati na oporavak koronarne mikrocirkulacije infarktne regije.

47 Mid-term impact of manual thrombus aspiration on left ventricular remodeling: the echocardiographic substudy of the randomized Physiologic Assessment of Thrombus Aspirtion in patients with ST-segment Elevation Myocardial Infarction (PATA STEMI) trial

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Background. It has been reported that index of microcirculatory resistance (IMR) is lower in STEMI patients who underwent thrombus aspiration before stent implantation compared to those tretaed with conventional primary PCI. The aim of this study was to evaluate impact of improved myocardial perfusion by manual thrombus aspiration assessed by IMR on left ventricular remodeling in STEMI patients at mid-term follow-up.

Method. The total of 115 patients entered the echocardiography substudy of the PATA STEMI (randomized Physiologic Assessment of Thrombus Aspirtion in patients with ST-segment Elevation Myocardial Infarction) trial which evaluated eficacy of manual thrombus aspiration using Eliminate3 catheter (Terumo Europe, Leuven, Belgium). Echocardiography was done within the first 24 hours after the index procedure and after 4 months. End-diastolic and end-systolic left ventricular (LV) volumes, ejection fraction (EF), cardiac sphericity index (CSI) and regional wall motion score index (WMSI) were calculated.

Results. In baseline characteristics, in patients with thrombus aspiration compared to those with conventional primary PCI, total ischemic time tended to be longer 246,7±181,8 vs. 200,9±110,1 min, P=0,09 and AUC CK was smaller 40090±26158 U/L vs. 52676±32013 U/L, P=0,026. Also, corrected IMR was lower in thrombus aspiration group 27,5±16,8 vs. 39,9±32,7 U/L, p=0,0079, while CFR (1,68±0,81 vs. 1,61±0,67, P=0,6) and mean capilary wedge pressure (20,4±6,6 vs. 21,4±7,8 mmHg, P=0,5) were similar. End-diastolic and end-systolic LV volumes per body surface area, EF, CSI volume and WMSI were similar between the thrombus aspiration and no aspiration group at baseline and at follow-up. At follow-up, percent change in WMSI tended to be greater in thrombus aspiration group (decrease in WMSI 8,2% vs. increase in WMSI 0,8%, P=0,094).

Conclusions. Improved myocardial perfusion assessed by IMR has no impact on left ventricular remodeling in STEMI patients at mid-term follow-up.

48 Thrombus aspiration is similarly effective in STEMI patients with ischemia lasting less than 6 hours compared to those with longer ischemia: echocardiographic subanalysis from the PATA STEMI trial

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Background. It has been reported that thrombus aspiration is effective in STEMI patients with total ischemic time duration of less than 3 hours and less effective in longer ischemia. Some studies tested thrombus aspiration efficacy only within 6 hours from chest pain onset. However, little is known about invasive assessment of thrombus aspiration efficacy in STEMI patients beyond 6 hours of schema and its impact on echocardiographic indices of LV remodeling.

Method. Patients who underwent thrombus aspiration were divided into two groups according to total ischemic time duration: <6 hours and ≥6 hours for the subgroup analysis in the PATA STEMI trial. Primary endpoint was mean value of corrected index of microcirculatory resistance (IMRcorr). Secondary endpoints were myocardial blush grade (MBG), resolution of ST segment elevation, AUC CK, wall motion score index (WMSI), left ventricular ejection fraction.

Results. In the PATA STEMI trial 75 patients underwent manual thrombus aspiration with the Eliminate3 catheter (Terumo Europe, Leiden, Belgium). In baseline characteristics, patients delay (74,5 vs 377,9, P=0,0002) and multivessel disease (46,0% vs 83,3%, P=0,026) were more frequent in patients with total ischemic time ≥6 hours (N=12). In patients with totals ischemic time <6 hours (N=63) compared to those with ≥6 hours, IMRcorr was 26,5±15,84 vs. 34,3±19,95 U, P=0,12, mean IMR in non-infarct related artery teritory 18,6±8,0 vs 24,2±4,0 U, P=0,21, complete resolution of ST-segment elevation 70,7% vs. 69,6%, P=0,58, myocardial blush grade ≥2 in 80,9% vs. 66,7%, P=0,44, AUC CK 40303,7±25380,3 vs. 44431,5±30316,4 U/L, P=0,41, WMSI 1,32±0,33 vs. 1,18±0,19, P=0,45, LVEF 54,9±10,40% vs. 59,3±9,21%, P=0,54 and MACE rate 11,1% vs. 0%, P=0,59. The rate of LV remodeling (19,0 vs. 8,3%, P=0,68) and reverse LV remodeling (36,5 vs. 33,3%, P=1) were similar between the groups, as week as CSI volume (0,43±0,10 vs. 0,43±0,10, P=1).

Conclusion. Manual thrombus aspiration in STEMI patients with ischemia lasting less than 6 hours is similarly effective as in those with longer schema immediately after the primary PCI and at mid term follow up.

49 Značaj stres ehokardiografskog testa u dijagnozi miokardne ishemije kod pacijenata sa bolom u grudima i promenama na bazičnom EKG-u

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Cilj:Utvrđivanje značaja stres ehokardiografskog testa u dijagnozi miokardne ishemije kod pacijenata sa bolom u

grudima i promenama na bazičnom EKG-u. Ispitanici: Analizom je obuhvaćena grupa od 104 pacijenta od kojih je 15(14,4%) imalo hipertrofiju leve komore sa znacima sistolnog opterećenja leve komore (HLK), 36(34,6%) je imalo blok leve grane(BLG), 32(30,8%)pacijenta bili su sa Sy LGL, 15 (14,4%) pacijenta bili su sa Sy WPW i 6 (5,8%) sa negativnirn T talasima na EKG-u.

Metod rada: Svim pacijentima urađen je stres ehokardiografski test na ergometar biciklu sa početnim opterećenjem od 25W, koje je povećavano za 25W na 3 minuta.Rađen je submaksimalni ili simptomima i/ili znacima limitiran stres ehokardiografski test.Marker miokardne ishemije bila je pojava novih poremećaja segmentne kinetike zida leve komore na stres ehokardiografskom testu.

Rezultati: U grupi sa HLK kod 7 (46,7%) pacijenta registrovana je na EKG-u ST segment depresija > 1mm,a samo kod 5 (33,3%) registrovan je pozitivan ehokardiografski nalaz. U grupi sa BLG kod 19 (52,8%)pacijenta registrovani su poremećaji u segmentnoj kinetici leve komore. U grupi sa Sy LGL u 25 (78,1%) pacijenta registrovana je ST segment depresija > 1mm a samo u 9 od tog broja (36%) registrovan je pozitivan ehokardiografski nalaz.U grupi sa Sy WPW kod 11 (73,3%)pacijenta registrovana je ST segment depresija > 1 mm, a samo u 5 od tog broja (45,5%) registrovan je pozitivan ehokardiografski nalaz.U grupi sa negativnim T talasom na EKG- u 2 (33,33%) pacijenta registrovani su poremećaji u segmentnoj kinetici leve komore.

Zaključak: Stres ehokardiografski test u visokom procentu omogućava dijagnozu miokardne ishemije kod pacijenata sa bolom u grudima i promenama na bazičnom EKG-u.Ključne reči: bol u grudima, mikardna ishemija, stres ehokardiografija

50 Detection of coronary atherosclerosis and myocardial ischemia in asymptomatic patients with increased cardiovascular risk

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Background: We wanted to evaluate the impact of coronary atherosclerosis and myocardial ischemia on management decision and prognosis in asymptomatic patients with intermediate and high cardiovascular (CV) risk.

Methods: 75 asymptomatic patients (35 with intermediate and 40 pts with high CV risk), underwent SPECT myocardial perfusion imaging (MPI) for detection of suspected CAD. Multi slice computer tomography (MSCT) with coronary calcium Agatston score (CAC) was also performed. Patients were followed up for 12 months for cardiovascular events (new chest pain, hospitalization for acute coronary syndrome, revascularization, cardiac death). Logistic regression analysis was used to assess predictive parameters for myocardial ischemia and cardiovascular events.

Results: Stress inducible ischemia was found in 12/60 pts (20%). Mild ischemia was found in 6 patients - summed stress score (SDS) <4, moderate in 4 patients and severe ischemia in 2 patients– SDS 5-7 and SDS >7 respectively. Pts with normal MPI scan had CAC score 98+/-45. Stepwise logistic regression analysis for prediction of stress induced ischemia showed OR 2.4 (95% CI 1.7−3.6) for stress induced ECG changes, OR 2.8 for CAC >400 (95% CI 1.9-3.2) and OR 3.9 for presence of DM over 10y (95% CI 2.3−6.6). Patients with at least moderate ischemia were referred for coronary angiography. One patient has been hospitalized for acute coronary syndrome and no cardiac death was registrated.

Conclusions: MPI is valuable method for preclinical assessment of myocardial ischemia in asymptomatic high risk patients, which improve prognosis and guide treatment decision. Coronary calcium score can reclassify patient's risk.

51 Echocardiography, mental stress test and myocardial ischemia

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Introduction: The myocardial ischemia is readily induced with exercise testing, but most episodes of ischemia occur during mental and emotional arousal as a trigger of myocardial ischemia.

Aim: The purpose of this study was to determine the correspondence of mental stress-induced ischemia in the laboratory with exercise induced ischemia and the relationship between new wall motion abnormalities induced by two mental stressors and by treadmill exercise test.

Material and methods: Study participants were 79 patients (63 men; meant standard deviation with angiographically confirmed coronary artery disease and previous positive exercise stress test result. The mental stress protocol consisted of mental arithmetic and anger recall task. The patient performed a treadmill exercise test 15-20 min after the mental stress task

Results: During mental stress test, 48 patients (Group 1, 61%) had a new wall motion abnormality, while other 31 patients (Group 2, 39%) did not. The average wall motion score index (Group 1 versus Group 2) was 1.49±0.41 vs. 1.14±0.18 for mental arithmetic ($p<0.001$), 1.75±0.44 vs. 1.14± 0.18 for anger recall ($p<0.001$), and 1.97±0.47 vs. 1.44±0.34 for mental stress test plus exercise stress test ($p<0.001$). The magnitude of wall motion abnormalities with mental stress and the number of mental stressors capable of triggering ischemia were related to severity of ischemia with exercise.

Conclusion: These findings may reflect greater functional severity of coronary artery disease or a propensity toward coronary vasoconstriction. It is suggested that mental stress impairs systolic function by inducing myocardial ischemia.

52 Neinvazivna procena funkcionalne znacajnosti miokardnog mosta: mesto dobutaminskog testa u proceni koronarne rezerve protoka

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Uvod: Miokardni most (MM) predstavlja kongenitalnu anomaliju toka koronarne arterije koju karakteriše sistolna kompresija njenog intramiokardnog segmenta. S obzirom da MM predstavlja dinamičku stenozu koja zavisi od jacine ekstravaskularne kompresije, sugerisano je da je procenu njegove funkcionalne znacajnosti neophodna inotropna stimulacija miokarda.

Cilj: Ovom studijom ispitivan je funkcionalni značaj MM koristeći procenu koronarne rezerve protoka (CFR) transtorakalnom Doppler-ehokardiografijom (TTDE) primenom vazodilatatornog i inotropnog sredstva.

Metode: U ovu prospektivnu studiju uključeno je 42 bolesnika (71% muškaraca, prosečne starosti 56±9g) sa angiografski verifikovanim MM na prednjoj descedentnoj arteriji (LAD) i sistolnom kompresijom ≥50% dijametra stenoze. Svim pacijentima je urađen treadmill stress-ehokardiografski test (SEHO) i izmerena CFR u distalnom segmentu LAD nakon iv. infuzije adenozina (ADO: 140 µg/kg/min) i dobutamina (DOB: 10-40 µg/kg/min).

Rezultati: Izvodljivost procene CFR ADO bila je 39/42 (93%), a CFR DOB 40/42 (95%). SEHO je bio pozitivan u samo 6/42 (14%). CFR ADO je bila značajno veća u odnosu na CFR DOBmax (2.84±0.69 vs. 2.45±0.49, p<0.01). CFR DOBmax je bila značajno niža u grupi SEHO-pozitivnih u odnosu na grupu SEHO-negativnih bolesnika (1.99±0.18 vs. 2.54±0.47, p=0.01), ali ne i tokom ADO (2.31±0.37 vs. 2.89±0.70, p=0.08). Koristeći SEHO test kao zlatni standard za otkrivanje miokardne ishemije, ROC analiza je pokazala da je CFR DOB bolja u diferencijaciji bolesnika koji imaju funkcionalno značajan MM (AUC 0.86, 95% CI: 0.73-0.99, p=0.01). Univarijatna logistička regresiona analiza identifikovala je starost (p=0.054), stabilnu anginu pektoris (p=0.018) i CFR DOB (p=0.036) kao varijable značajno povezane sa miokardnom ishemijom, dok je multivarijatna analiza pokazala da je CFR DOB jedini nezavisni prediktor ishemije miokarda kod bolesnika sa izolovanim MM (OR 0.355, 95% CI: 0.021-0.751, p=0.036).

Zaključak: Merenje TTDE CFR nakon inotropne stimulacije visokim dozama dobutamina, u poređenju sa vazodilatacijom, omogućava bolju procenu funkcionalne značajnosti MM.

INTEGRISANA EVAULACIJA / MULTIMODALITI IMIDŽING
INTEGRATED EVALUATION / MULTIMODALITY IMAGING

53 Diagnostic Value Of Coronary Flow Reserve Determined By Transthoracic Doppler Echocardiography In Patients With Previously Performed Multi-Slice Computed Tomography

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Purpose: Multi-slice computed coronary angiography (MSCT) provides morphological information about coronary artery disease, but precise quantification of stenosis remains difficult. Transthoracic color Doppler Echocardiography (TDE) gives insight into the functional significance of coronary stenosis. We have tried to assess the additive diagnostic value of coronary flow reserve (CFR) determined by TDE over MSCT in prediction of significant stenosis on the left anterior descending artery (LAD) and right coronary artery (RCA) using invasive coronary angiography (ICA) as reference method.

Methods: This prospective study included 84 patients, in stable cardiac status, with previously detected atherosclerotic lesions on LAD and/or RCA by MSCT. CFR assessment by TDE with adenosine was obtained in LAD (n=75); RCA (n=61), resulting in 136 vessels for analysis. ICA was preformed to all 24 to 48 hours after CFR.

Results: Cochrans Q test found a significant statistical difference between these techniques in detection of a significant stenosis on LAD and RCA (p<0.01), further analyzes revealed a significant difference between MSCT and CFR (p<0.05), MSCT and ICA (p<0.01), while between CFR and ICA we didn't find a significant difference (p>0.05). MSCT had sensitivity LAD:88.00%; RCA:86.21, specificity LAD:57.63%; RCA:69.10%, positive LAD:46.81%; RCA:59.52% and negative predictive value LAD:91.19%; RCA:90.48%, diagnostic accuracy LAD:66.67%; RCA:75.00% in detection of significant stenosis. When the results of both methods were agreed diagnostic accuracy was improved LAD 97.33%; RCA 90.00%.

Conclusion: Comprehensive noninvasive anatomical and functional imaging would be the best way for detection of significant coronary artery lesions.

54 Značaj određivanja parametara arterijske krutosti kod bolesnika sa koronarnom bolešću

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Cilj: utvrditi postojanje međusobne povezanosti arterijske krutosti i faktora rizika koronarne bolesti i da li je arterijska krutost u stanju da predvidi buduće kardiovaskularne događaje.