КНИГА НА АБСТРАКТИ

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ABSTRACT BOOK

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(средна возраст 54 +/- 7, мажи: 48) со ангиографски докажана КАБ (најмалку 70% стеноза). Пациенти со историја на миокарден инфаркт, срцева слабост, лево вентрикуларна хипертрофија, блок на гранка и електролитни нарушувања беа исклучени од студијата. Пациентите беа поделени во три групи според СТД (1мм или повеке; 60 мс после J точката) за време на периодот на оптоварување и на опоравување (најмалку 3 минути). Во групата I (н=17, мажи 15) беа вклучени пациенти со СТД за време на периодот на оптеретување. Група II (н=21, мажи 18) пациенти со СТД за време на двата периода, на оптеретување и на опоравување и група III (н=12, мажи 10) пациенти со СТД само за време на периодот на опоравување.Сите групи беа споредувани со хи-квадрат тестот според бројот на заболените крвни садови. Резултати: Немаше значајна разлика меѓу групите во однос на средната возраст, полот, срцевите ризик фактори и медикаменти. Вкупното време на оптеретување и појавата на исхемија беа поврзани со тежината на КАБ во сите групи. Инциденцата на повекесадовна болест беше значајно повисока кај пациентите со СТД или само во периодот на опоравување (група III) или во двата, периодот на опоравување и на оптеретување (група II) (п= 0,02). Едносадовна болест (н=17) :Група I - 8 пациенти (47%), Група II - 6 пациенти (29%), Група III - 3 пациенти (25%) Повекесадовна болест (н=33): Група I - 9 пациенти (53%),Група II - 15 пациенти (71%), Група III - 9 пациенти (75%) Заклучок: Појавата на СТД за време на периодот на опоравување може да биде од корист во предвидувањето на големината на КАБ.

CORRELATION BETWEEN ANGIOGRAPHIC FINDINGS AND ST SEGMENT DEPRESSION DURING RECOVERY TIME OF EXERCISE TESTING IN PATIENTS WITH ISCHEMIC HEART DISEASE

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The aim of this study was to examine the impact of ST segment depression (STD) during recovery time of exercise stress testing (EST) on the extent of coronary artery disease (CAD). Methods: Fifty patients (mean age 54 +/- 7, male 48) with angiographically proven CAD (at least 70% stenosis) were enrolled in the study. Patients (pts) with a history of myocardial infarction, heart failure, left ventricular hypertrophy, bundle branch blocks and electrolyte disturbances were excluded. Patients were divided into three groups according to STD (1mm or more; 60ms after J point) during exercise and recovery phases (at least 3 minutes). Group I (n=17, male 15) included pts showing STD during exercise phases. Group II (n=21, male 18) pts with STD during both, exercise and recovery time and group III (n=12, male 10) pts with STD only during recovery phase. All groups were compared with chi-square test according to the number of diseased vessels. Results: There was no significant difference between the groups for mean ages, sex, cardiac risk factors and medications. The total exercise time and the onset of ischemia were related to the severity of CAD in all groups. The incidence of multivesseles disease was significantly higher in pts with STD either only in recovery time (group III) or in both recovery and exercise periods (group II) (p=0,02) Singlevessel disease (n=17): Group I - 8 pts (47%), Group II - 6 pts (29%), Group III - 3 pts (25%) Multivessel disease (n=33) : Group I - 9 pts (53%), Group II, 15 pts (71%), Group III - 9 pts (75%) In conclusion, the occurrence of STD during recovery time may be useful in predicting the extent of CAD.

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THE INSUFFICIENCY OF EXERCISE STRESS TEST IN ASSESSMENT OF CORONARY STATUS IN PATIENTS WITH BYPASS SURGERY

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Aim: To prove that the exercise stress test (EST) has low sensitivity in assessment of coronary flow reserve after bypass surgery (ACBP) compared to the symptomatic patients for coronary artery disease (CAD) without surgical treatment. Methods: 670 patients performed exercise stress test in the EST unit of the SHC "Filip II" in the period from November 2004 to March 2006. The first group included 450 patients who were symptomatic for CAD, not surgically treated. In the second, there were 35 patients that had ACBP. The assessment of coronary flow reserve was made by Bruce protocol. To confirm the accuracy of the results for the both groups of patients with positive EST selective coronarography was performed. Results: From 450 patients' sympthomatic for CAD with no surgical treatment, 87 (19.3%) had positive EST and 28 (6.2%) had borderline EST. The coronarography findings of the patients that resulted positive from EST showed sensitivity of EST >75%. In the second group of patients with ACBP, 21 (60%) had positive EST, 14(40%) had negative from the total number of 35 patients. Coronarography was performed in all patients who had positive EST and in 3 (14%) patients the coronarography findings were positive. Conclusion: EST has low sensitivity in assessment of coronary flow reserve in patients with ACBP compared with it's sensitivity in the group of patients with sympthomatic CAD without bypass surgery.

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РАЗЛИКИ ВО КАРАКТЕРИСТИКИТЕ НА ЕРГОВЕЛОСИПЕД ТЕСТОТ ПОМЕЃУ МАЖИ И ЖЕНИ ПОСЛЕ ХИРУРШКА РЕВАСКУЛАРИЗАЦИЈА

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ЦЕЛ НА ТРУДОТ: детекција на разликите во па-

на графтот 1,5% респираторна инсуфициенција 3,5%, АМИ 3%, АБИ 1% и пнеумониа 1,5% Вкупниот морталитет беше 2,4%. Заклучок: Во оваа студија не можеше да се утврди сигнификантност (p>0,10), односно поголема потреба од outflow процедури кај дијабетичари.

THE INFLUENCE OF THE DIABETES ON ARTERIAL RECONSTRUCTION AT PATIENTS WITH OCCLUSIVE ARTERIAL DISEASE

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Introduction:Critical leg ischemia due to arterial occlusive disease is main indication for urgent arterial revascularisation. In this study we decided to measure the diabetes influence on the outflow procedure after inflow by-pass. Methods: Between 1996 and 2006 we analyzed 45 patients with diabetes and occlusive arterial disease where we performed inflow by-pass surgery. We performed: aortofemoral by-pass in 32 patients (71%); illiacofemoral bypass 12 patients(26.6%) and fem-femoral at 1 patient (2.4%). At 7 patients (16%) it was necessary to make outflow by-pass to solve the critic ishemia. Results:The main indication for the operation was : limb saving procedure at 76 % of the patients; claudications at 24% of the patients.Overall morbidity was 16%:local haemathoma 3%; wound infection 2.5%; graft occlusion 1.5%; respiratory failure 3.5%; myocardial infarction 3%; acute renal failure 1% and pneumonia 1.5%. The overall mortality was 2.4%. Conclusions:This study excludes the need of simultaneous inflow and outflow procedures at diabetic patients.

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ПЕРКУТАНА ТРАНСЛУМИНАЛНА АНГИОПЛАСТИКА СО СТЕНТИРАЊЕ КАЈ ПАЦИЕНТИ СО ПЕРИФЕРНА АРТЕРИСКА БОЛЕСТ:ИНИЦИЈАЛНИ И ДОЛГОРОЧНИ РЕЗУЛТАТИ

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Вовед: ПТАС е техника за решавање на стенозирани и оклудирани сегменти кај оклузивни лезии на артериите. Материјал и метод: Во период од 2002 до 2006 беа евалуирани 20 пациенти третирани со ПТАС. Пациентите се следеа 6 месеци. Резултати: Иницијалната рата на проодност изнесуваше 85% и на овие резултати имаше влијание искуството на радиологот, изборот на катетер и типот на лезијата. Долгорочната проодност после период од 6 месеци изнесуваше 75%. Немаше разлика во долгорочната проодност помеѓу иницијално успешно третирани стентови и краткосегментни оклузии (<4цм) на феморо-поплитеална артерија. Наспроти ова влијанието на морфологијата и локацијата на стентираната лезија имаше големо влијание врз долгорочните резултатуи третирани со оваа техника. Заклучок: ПТАС е периферна метода за третман на краткосегментни оклузии (<4цм) на феморо - поплитеален сегмент.

PERCUTANEUS TRANSLUMINAL ANGIOPLASTY WITH STENTING IN PATIENTS WITH PERIPHERIAL ARTERY DISEASE: INITIAL AND LONG TERM RESULTS

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Introduction:Patients with dilatated stenosis and recanalised occlusions were evaluated for assessment of initial and long term success of percutaneous transluminal angioplasty and stenting of the femoropopliteal artery.Methods:We evaluated 20 patients with PTAS between 2002 and 2006. The follow up period was 6 months.Results:The initial rate of successful treatments was 86%. The initial results were influenced by the radiologists experience, catheter selection and the type of lesion. The long term patency after the period of 6 months was 75%.There was no difference in the long term patency between the initially successful treated stenosis and short(<4cm)occlusions of the femoropoliteal artery.On the other hand both the morphology and the location of the stenotis lesions influenced the long term results of treatment with these technique.Conclusions:PTAS is preferred technique for treatment of short lesions smaller than 4 cm for arterial occlusions.

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RETROPERITONEAL APPROACH FOR TREATMENT OF INFRARENAL AORTIC ANEURYSM

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Introduction: This report will summarize our initial experience with the use of retroperitoneal approach (RA) for elective treatment of infrarenal abdominal aortic aneurysm (AAA) as well as emergency repairs for ruptured AAA. Material and methods: January 2005 to November 2005, nine patients were operated for AAA using the RA. All patients were males, mean age of 63 ± 5 years. Four patients had previous heart surgery. Three patients were subjected to coronary angiography. Two patients were in hemorrhagic shock, and were transferred immediately to the operating theater. Results: We have performed 4 emergency and 5 elective procedures with RA for AAA repair. Hospital mortality was 22% (2 patients). They both underwent emergency surgery due to AAA rupture. Seven patients were successfully treated using tube graft or bifurcated graft interposition. Their postoperative recovery was uneventful. There was none significant postoperative bleeding. Average extubation time was 5.5 ±

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ANEURYSM OF THE ASCENDING AORTA: SURGICAL EXPERIENCE IN SIXTY-FIVE PATIENTS

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Introduction: This report will summarize our experience in treatment of patients with ascending aortic aneurysm (AAA). Material and methods: Records of 65 consecutive patients from January 2002 to August 2005 were reviewed. Acute aortic dissection patients were excluded. There were 46 men and 19 women, mean age of 57 ± 12 years. Twenty-three patients (35%) had severe aortic stenosis with poststenotic dilatation of the ascending aorta, with bicuspid aortic valve present in 6 (11%). Elective operations were done in 83 %, emergency procedures in 17% of the patients. Aortic arch cannulation was used in 50 patients (77%); right subclavian artery cannulation with antegrade cerebral perfusion during circulatory arrest in 12 patients (18%). Supracoronary graft replacement was done in 29 (45%), reduction aortoplasty in 28 (43), Bentall in 5 (8%), David in 3 patients (4%). Graft replacements were Bioglue reinforced. Freehand xenopericardial valve replacement was done in 14 (22%), aortic valve resuspension in 11 (17%), noncoronary sinus reconstruction in 9 patients (14%). Results: Hospital mortality was 5 (8%). Non-fatal neurologic complications developed in 5 (8%). There were 6 (9%) surgical bleedings. One patient required reoperation due to heart failure and severe aortic regurgitation. Conclusion: Our data shows good early results with different techniques used for AAA, with mandatory midterm and long-term studies to evaluate the validity of the procedures used.

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SURGERY FOR ACUTE AORTIC DISSECTION USING MODERATE HYPOTHERMIA (30°C) AND ANTEGRADE SELECTIVE CEREBRAL PERFUSION VIA THE RIGHT SUBCLAVIAN ARTERY

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Introduction: To report our experience in surgery for acute aortic dissection (AAD). Material and methods: Between January 2002 and October 2005, 45 consecutive patients were treated for AAD. Twenty-one patients were hemodynamically instable, 4 were comatose, 5 had transient ischemic attacks, 1 with stroke. Emergency surgery was performed using direct subclavian artery cannulation, antegrade selective cerebral perfusion (ASCP) with moderate hypothermia (MH). Results: Mean extracorporal circulation (ECC) and ASCP times were 105.6 ± 16 and 24.7 ± 6.5 minutes, and 223.6 ± 53.2 with 35.6 ± 22.3 for complex procedures. The early hospital mortality rate was 15%. All patients but 7 showed signs of normal awakening within 8 hours postoperatively. Six patients had fatal neurologic complication, coma and death as result of multiorgan failure in 4, bleeding in 2 patients. Seven patients had non-fatal, transient neurological dysfunction. Conclusion: Direct subclavian artery cannulation for ECC and ASCP using MH is simple and safe method for treatment of AAD with good operative and early postoperative results.

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NOVEL METHOD FOR BIO GLUE USE IN SURGERY FOR ACUTE AORTIC DISSECTION

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Introduction: This report will summarize our experience using novel method of bio glue application for distal and proximal anastomoses during reconstructive surgery for acute aortic dissection (AAD). Material and methods: Between January 2004 and October 2005, 20 consecutive patients were treated in our center for AAD. Moderate hypothermia (30°C) with antegrade selective cerebral perfusion via the right subclavian artery was used during ascending aorta and hemiarch reconstruction in 17 and complete arch in 3 patients. Aortic walls were reinforced with strips from albograft prostheses and bio glue sandwiching. Following construction of the anastomoses, bio glue was applied on the outside, simultaneously applying suction on the inside of prostheses, forcing the bio glue to impregnate the anastomotic site and needle holes. Results: There was no re-exploration or early deaths as result of bleeding. Average daily chest tube drainage was 582 ± 150 ml/day, with duration of 2 ± 0.9 days. Conclusion: Our method is simple and safe to use, with excellent operative results and reduced chest tube drainage and need for transfusion.

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РЕКОНСТРУКТИВНА ХИРУРГИЈА НА АОРТЕН АНУЛУС

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Вовед: Реконструктивната хирургија за аортниот анулус е алтернативен третман на аортната инсуфициенција при дилатација на аортниот корен. Иако композит графтот на аортната валвула и асцендентната аорта е стандарден третман, реконструктивната хирургија на аортниот анулус е погодна за пациенти со нормални аортни залистоци. Методи: Од 2000-2006, 27 пациенти со дилатација на асцендентната аорта и аортна инсуфициенција беа оперирани. Реконструкција на аортниот анулус беше применета. Два вида на аортен валвуларен спеаринг беа применети: ремоделирајќи го аортниот корен со презервација на аортната валвула кај 14 пациенти и реимплантација на аортната валвула во Албографт кај 13 пациенти. Фоллоњ уп период бесе 2-70месеци. Доплер ехокардиографија беа применети пред и послеоперативно. Резултати: Само еден пациент умре од сепса (3.7%). Еден пациент мораше да ја замени аортната валвула,

поради перзистентна аортна инсуфициенција. Немаше касна смртност. Актуелна стапка на преживување на 6 месеци е 96.3%. Не се регистрирани тромбогени инфективни компликации. Само 3 пациенти имаа лесен степен на аортна инсуфициенција, и самиот пациент има лесна или пак нема аортна инсуфициенција. Заклучок: Средно-временските резултати на аортен валвуларен spearing операциите, беа одлични и ја потврдија својата континуирана употреба кај пациенти со аневризма на аортниот корен и нормални аортни залистоци.

RECONSTRUCTIVE SURGERY OF THE AORTIC ANNULI

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Objective: Reconstructive surgery of the aortic annuli is an alternative treatment for aortic insufficiency due to dilatation af the aortic root. Although composite replacement of the aortic valve and ascending aorta has been the standard treatment, a reconstructive surgery of the aortic annuli is feasible in patients with normal aortic valve leaflets. Methods:From 2000 to 2006, 27 patients with dilatation of the ascending aorta and aortic insufficiency were operated on.Aortic valve sparing operations were performed. Two types of aortic valve-sparing operations were performed: remodeling of the aortic root with preservation of the aortic valve in 14pts and reimplantation of the aortic valve in a tubular Albograft in 13. Patients were followed up from 2 to 70months. Dopler echocardiograpfic studies were performed pre and postoperatively. Results:Only one patient died due to sepsis (3.7%). One patient had to have aortic valve replacement because of persistent aortic insufficienty. No late deths. The acturial survival rate at 6 years was 96.3%. There have been no thromboembolic or infective complications. Only 3 patients have moderate aortic insufficienty, the remaning patients have slight or no aortic insufficienty. Conclusion: The midterm results of aortic valve sparing operations have been excellent and justify their continued use in patients with aortic root aneurysms and normal or near normal aortic valve leaflets.

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PREOPERATIVE METHYLENE BLUE ADMINISTRATION IN PATIENTS AT HIGH RISK FOR VASOPLEGIC SYNDROME DURING CARDIAC SURGERY.

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BACKGROUND: We prospectively studied whether preoperative methylene blue administration would prevent the vasoplegic syndrome in these high-risk patients. METHODS: One hundred patients scheduled for coronary artery bypass graft surgery who were at high risk for vasoplegia because they were preoperatively using angiotensin-converting enzyme inhibitors, calcium channel blockers, and heparin were randomly assigned to either receive preoperative methylene blue (group 1, n = 50) or not receive it (group 2, controls, n = 50). Methylene blue (1% solution) was administered intravenously at a dose of 2 mg/kg for more than 30 minutes, beginning in the intensive care unit 1 hour before surgery. RESULTS: Although similar in terms of all demographic and operative variables, the two groups differed significantly in terms of vasoplegic syndrome incidence (0% in group 1[0 of 50] vs 26% in group 2 [13 of 50]; $p < 0.001$). In 6 patients, the vasoplegic syndrome was refractory to norepinephrine. Four of these patients survived; the other 2 had vasoplegic syndromes that were refractory to aggressive vasopressor therapy, and they ultimately died of multiorgan failure. The two study groups also differed significantly in terms of average intensive care unit stay (1.2 +/- 0.5 days in group 1 vs 2.1 +/- 1.2 days in group 2; $p < 0.001$) and average hospital stay (6.1 +/- 1.7 days in group 1 vs 8.4 +/- 2.0 days in group 2; $p < 0.001$). CONCLUSIONS: Preoperative methylene blue administration reduces the incidence and severity of vasoplegic syndrome in high-risk patients, thus ensuring adequate SVR in both operative and postoperative periods and shortening both ICU and hospital stays.

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INFLUENCE OF HYPOTHYREOTIC CONDITIONS ON POSTOPERATIVE RECOVERY IN PATIENTS FOLLOWING CARDIAC SURGERY

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Thyroid hormones (TH) have proved a very important role in cardiovascular activity expressed through their influence on cardiac contractility and peripheral vascular resistance. Reduced action of TH postoperatively in patients underwent cardiac surgery may contribute to postoperative hemodinamic dysfunction and it could significantly altered the outcome of the operation performed in accordance to standard procedure. We observed 9 patients in our institution, who had depressed serum level of free thyroxine (fT4).The values of fT4 were between 0.02 – 0.94 ng/dL. Three of them had preoperatively diagnosed hypothyreosis and the rest of six had decreased fT4 serum level postoperatively for the first time. All of them had delayed postoperative recovery. The average time of mechanical ventilation was 18.44 days and the average time of hospital stay was 30.88 days. Three patients died without being released from mechanical ventilatory support. Compared with average time of extubation and hospital stay of patients with normal serum level of fT4, those with decreased level of fT4 had longer time of postoperative recovery. Our conclusion was that the level of TH had influence on postoperative recovery in patients underwent cardiac surgery and it may alter the outcome of cardiosurgical operations.

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TREATMENT AND FOLLOW-UP OF LARGE PERICARDIAL EFFUSIONS

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In spite of the frequent diagnostics of the pericardial effusions (PE), their true nature, clinical following and the treatment are still not fully defined. Aim: to determinate the incidence of the PE and modalities of their treatment Material and Method: in the past six years, out of the 3230 performed procedures, 57 (1.8%) patients had PE. We analysed 23 patients with large post-pericardiothomy PE. Mean age 44 ± 14 years, men/women ratio 1.1, mean occurrence time of effusion was 12 days (range 5-21 days), mean sum of end-diastolic echo free-space is 29mm (range 20-36mm). The diagnosis was echocardiographically set. All patients underwent frontal pericardial fenestration. Results: Mean amount of evacuated effusion in the groups was 1.1 l (0.7 – 1.5 l). Serial echocardiography controls were made on all patients with a result of complete regression of the effusions after 2.2 months (1-4months), for both groups. All the patients postoperatively were under nonsteroid antireumathics. Conclusion: Pericardial effusion is a rare postoperative complication mainly conservative medically treated. Fenestration is a method of choice only with defined large effusions with/without tamponade signs.

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SURGICAL TREATMENT OF POSTINFARCTAL VENTRICULAR SEPTAL DEFECT

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Ventricular septal defect (VSD) appears early after myocardial nfraction, with an incidence of about 1-2% of all infraction. Without surgery the mortality is 54% within the first week and 92% within the first year. Purpose of the study: to demonstrate our experience in management of the AIM complicated with VSD. Material and methods: In period of May 2003-April 2006 out of 1413 CABG procedures, 4 (0.28%) patients had postinfarctal VSD. Mean age 59.5 (53-72 years), men/woman ratio 2:2. All patients were in cardiogenic shock and with pulmonal edema. Angiography has shown multiple coronary artery disease, in 4/4 patients. The diagnosis was made by TTE, in one patient with TEE. Results: All patients were with NYHA IV, preoperative stimulated with inotropes. In three patients IABP (intraortic ballon pump) was placed. One patient was connected to assisted ventilation, preoperative. Preoperative hospitalisation was3-9 days. All patient were surgically treated. Average diameter of the VSD was 21,25mm + 5mm. Change of EF from 32.5 + 5% to 45.25 + 3%. Reduction of EDV from 263.75 + 30ml to 157 ±10ml. Average stay in hospital 42 + 20 days. Three month after the surgery the patiens were NYHA II. Conclusion: The best choice of treatment for postinfarctal VSD is a surgical closing of the VSD. Preoperative stimulation with inotrops and placement of IABP is the most effective method of providing circulatory support while preparing for surgery.

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HEART TUMORS

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Early diagnosis of the heart tumors (Tu) prevents fatal outcome and reduces complication of Tu persistance, with surgical removal of the Tu as a first choice of treatment. Material and methods: In the past six years out of 3000 performed procedures, 13 patients (0.4%) are surgicly treated for heart tumor, 5 man and 8 woman, mean age 48,5 + 11. Four of them had an history of ICV. The diagnosis of all patients was confirmed by echocardiography. Mean size of the Tu was 4x7cm. In 7 patients the Tu was located in the left atrium, in 6 patients in the right atrium. Eleven patiens were with combined valvular disfunction from which 7 on the mitral and 4 patients on tricuspid valve. Results: All patients were surgically treated in the early fase. In two patients the Tu was removed by left atriotomy. Eleven patient had a valvular reconstruction, 7 with mitral reconstruction (6 of them had reconstruction using Batista's method and one with Frater's suture method). All the tricuspid reconstruction were made by Batista's suture method. Heart myxoma was diagnosed pathologically in all. There was no operative or post-operative complications. Average stay in hospital 6 + 1 day. Post-operative follow up showed good recovery without any clinical signs of heart failure or Tu recurance. Conclusion: Early diagnosis and surgical removal of the heart tumors is a first choice of treatment for preventing complication such as heart failure and embolisation

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RESULTS OF TREATMENT FOR CORONARY ARTERY DISEASE IN 735 PATIENTS

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Introduction: to summarize our results in treatment of coronary artery disease (CAD). Material and methods: November 2004 to April 2006, 735 patients were treated for CAD. There were 434 males, 301 females median age 60 ± 8.9 years. Previous myocardial infarction had 447(61%), 55(7%) were admitted as acute coronary syndrome, 193(26%) with unstable angina, 413(56%) were classified as CCS III or IV, and 417(56%) as NYHA III or IV. Left main involvement was present in 102(14%), two or three vessel disease in 562(76%) patients. Preoperative EF was 36±8.9, and 203(27%) had diagnosed diskinezia or aneurysm of the left ventricle. Moderate to severe mitral insufficiency was present in 209(28%) patients. Significant extracranial cerebrovascular disease was present in 134(18%) patients. Results: We performed 606(82%) on

pump,129(17%) off pump revascularizations, including 32(4%) reoperations. In average there were 2.5 grafts per patient, complete arterial revascularization performed in 254(34%) patients. Left ventricle aneurismectomy was performed in 99(14%), 71(10%) mitral valve reconstructions, aortic surgery in 36(5%), tricuspid valve reconstruction in 12(2%), closure of VSD in 3. Intraaortic balloon pump was used in 38(5%) patients. Extubation time was 11.3±17.6 hours, hospitalization time of 7.9±2.6 days. Early mortality was 36 (5%) patients. Conclusion: Although we have excellent early results, midterm and longterm studies will give answers in the definite results.

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COMPLETE ARTERIAL REVASCULARIZATION FOR TREATMENT OF CORONARY ARTERY DISEASE

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Introduction: Arterial conduits (AC) for myocardial revascularization have become widely accepted grafts. Material and methods: November 2004 to April 2006, 735 patients were treated for CAD. There were 434 males, 301 females median age 60 ± 8.9 years. Previous myocardial infarction had 447(61%), 55(7%) were admitted as acute coronary syndrome, 193(26%) with unstable angina, 413(56%) were classified as CCS III or IV, and 417(56%) as NYHA III or IV. Left main involvement was present in 102(14%), two or three vessel disease in 562(76%) patients. Preoperative EF was 36±8.9, and 203(27%) had diagnosed diskinezia or aneurysm of the left ventricle. Significant mitral insufficiency in 209 (28%) patients. Significant extracranial cerebrovascular disease was present in 134(18%) patients. Results: Complete arterial revascularization was performed in 254(34%) patients, 151 on pump and 103 off pump. In average there were 2.1 grafts per patient, left internal mammary revascularization of left anterior descending artery in 230(90%), left radial artery as a "T" graft in 95(37%) or as a free graft in 88(34%) patients. Additionally, left ventricle reduction surgery was performed in 38(16%) with 2 off pump, mitral valve reconstructions in 30(12%). Postoperative EF averaged 40±9. Average extubations time was 9.5±10 hours, ICU stay of 3.1±2.2 and hospitalizations 6.8±1.7 days. Early mortality was 16 (6%). Conclusion: AC are our preferred method of revascularization for young patients in combination with off pump surgery.

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TOTAL ARTERIAL REVASCULARISATION IN PATIENTS WITH END-STAGE HEART FAILURE

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OBJECTIVE:Left ventricular reconstructive surgery allows the surgeon to remove the scarred, dead area of heart tissue and return the left ventricle to a more normal shape. The goal is to improve heart failure and combined with revascularisation to prevent angina.The aim of this study was to determine survival and outcome in a patients after left ventricle reconstructive surgery. METHODS:From 08/2001-04/2006, 276pts with ischemic LV aneurysm underwent combined bypass surgery and LV reconstruction.As a standard we used both LITA, radial artery or vein as a graft. We compared preoperative and postoperative echocardiographic ventriculogrphy, haemodynamic data and coronarographic findings. RESULTS:On 162(59%61pts was performed direct circular rconstruction (modified method od Mc Carthny's technique), 38(22%)od pts got a combination of DCR and batista procedure, 44pts(16%) got a LV placation, and only 9pts(3%) have been operated according to Door. Postoperative echocardiographia and hemodynamic improvemenmt was notified in all patients: EDV/ESV decreased for 40%/37.5%, EF increased from 20%on35%. 114(41.2%)pts get mitral and tricuspid annuli reconstruction.Early mortality rate was 10.1%(28pts) and late mortality was 3%(9pts). CONCLUSION: Left ventricular reconstructive surgery ensures good clinical outcome in patients with ischemic end stage heart failure, with good cost beneffite results, comparing with assist device left chamber support or transplant surgery.

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ТРАНСВЕНТРИКУЛАРНА МИТРАЛНА АНУЛОПЛАСТИКА

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Вовед: Цел на студијата е да се евалуираат нашите искуства со трансвентрикуларен пристап за митрална валвуларна анулопластика. Методи: 58пациенти со ICD-NYHA класа IV беа третирани со трансвентрикуларна митрална анулопластика. Вклучувачки критериуми беа: голема ЛВ аневризма во предно-задна регија, тешка КАБ,митрална регургитација (MP)>+2, дилатација на митралниот анулус >36мм, без органска МВ болест. После тотална реваскуларизација, инцизијата беше направена на врвот од аневризмата, исклучувајки го фиброзното ткиво од предниот ѕид и протегајќи се до задниот ѕид. Преку отворот на аневризмата, митралната валвула се експлорира од вентрикуларната страна, и се прави притегање на задниот дел од митралниот анулус. Истиот се скратува, одрзувајќи ја еластичноста и флексибилноста на валвулата. На крај се става Alfieri stic мегу двата залистока. Потоа се затвора аневризмата. Резултати: Преживувањето беше 89.4%, follow up 1-37месеци. Не се регистрира MP.Ехото показа намалување на средните градиенти од 35 на 10ммХг, ЕДВ од 316на 182 и пораст на ЕФ од 20 на 37%,NYHA класа бесе зголемена од 3.4 на 2.5 Заклучок: Кај оваа селективна група на пациенти трансвентрикуларната митрална анулопластика дава подобар приказ и пристап и можност за симултана реставрација на субвалвуларниот апарат и ЛВ аневризмата.

TRANSVENTRICULAR MITRAL VALVE ANNULOPLASTY

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OBJECTIVE: Aim of this study was to evaluate our preliminary experiance of transventricular access for mitral valve anuloplasty. METHODS: 58pts with ICD- NYHA class IV underwent transventricular mitral valve anuloplasty.Including criteria were:large LV aneurysm in antero-apico-posterior wall,severe CAD;mitral valve regurgitation(MR) higher than +2,due to mitral annulus dilatation->36mm,without organic MV disease.After total revascularisation,incision was started at apex of aneurysm,excluding fibrotic tissue of anterior wall and than extended to posterior wall in linear fashion,towards the mitral annulus.Through aneurysm orifice,mitral valve was explored from its ventricular side,and posterior part of annulus was reconstructed using double continuous suture,with knotting after every parallel bite.Posterior part of mitral annuli was shortened,keeping its flexibility and elasticity during opening and closing of leaflets. At the end both leaflets were sutured with Alffieri stich. Aneurysm orifice was closed. Control transoesophageal and trasthoracic echo was done preoperatively and intraoperatively. RESULTS: Survival was 89.4% with follow up period of1- 37months.There was no significant mitral regurgitation, postoperativelly. Echo controls showed significant decreasing of middle pressure gradients from 35±0.9on10±0.9postop, with decreasing of EDV from 316±22.5on182±21.5 and increasing of EF from 20±7.2on 37±4.5.NYHA class was increasing of EF from 20±7.2on 37±4.5.NYHA class was increased from 3,4 on 2.5 CONCLUSION:In this selective group transventricular mitral valve anuloplasty ensures better access and view for simultaneous restoring of mitral valve and LV aneurysm.

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КАРДИОХИРУРШКИ ТРЕТМАН НА ВСМ

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101 пациент, со возраст од 13-64 години (36.5 ± 11.6години), 44 машки и 56 од женски пол се евалуирани од 1/3/00 до 1/5/06 година, во пред, пери и постоперативниот период. 74 (75%) од пациентите беа во NYHA III класификација, а 19 (20%) во NYHA IV. Просечно време од поставувањето на дијагнозата, до оперативниот зафат изнесуваше 9.5 месеци. Медикаментозна терапија примале 31 (32%) од пациентите, а транзиторни или перманентни ритам пореметувања имале 27 пациенти (28%). Цијаноза имаа 2 (2%) од пациентите. Кај сите 101 пациенти е направена трансторакална ехокардиографија (TTE) и предоперативна трансезофагеална ехокардиографија (TEE), а кај 11 (12 %) и селективна коронарографија и десностран срцев катетеризација. Предоперативно пулмонална артериска хипертензија имаше кај 31 (32%) од пациетните. Најголем процент (78%) беа 79 пациенти со АСД II а потоа 8 пациенти со парцијален А-В канал, 7 со ВСД, 4 пациенти со пулмонална стеноза (валвуларна и инфундибуларна), хипертрофична опструктивна кардиомиопатија кај 2, хируршки третиран дуктус (ДАП) и T.Fallot кај еден (1) пациент. 97 пациенти (98%) беа третирани радикално, а 3 (2%) палијативно. Просечен престој во единица за интензивна нега беше 16 +/- 6часа, просечно време на екстубација 4.5 часа, а престој во болница 4.5 дена. Рани постоперативни компликации (изливи, ПАХ, реоперации) се верифицирани кај 17 (18%) од пациентите, ex.lethalis кај 4 (4%), а follow up на доцните компликации: аритмии кај 23 (24%) и ППСs кај 17 (18 %) од пациентите. Кај еден пациент е направен реоперација заради основната болест, додека 97% од пациентите имаа клиничко подобрување.

SURGICAL TREATMENT OF CONGENITAL HEART DISEASES

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Clinical evaluation of 101 patient in pre, intra and postoperative period, age 13-64 years (36.5 ± 11.6y), 44 male and 56 female, from 03.2000 to 05.2006 year was made. In NYHA III class were 74 (75%), NYHA IV, 19 (20%). 9.5 months was average time from diagnosis to surgical treatment. Before surgery 31 (32%) received drugs, and transient or permanent arrhythmias had 27pts; two (2) were cyanotic. Transthoracic echocardiography was performed in all, as well as intraoperative transesophageal echocardiography, however diagnostic heart catheterization was done in 11 (12 %). Severe pulmonary hypertension (PH) had 31(32%) of patients. ASD II were 79 (78%), 8 with partial atrioventricular canal, 7 VSD's, 4 patients with pulmonary stenosis (valvular and infundibular), hypertrophic obstructive cardiomyopathy in 2, and one(1) duct (PDA) and T.Fallot. Radical surgery was performed in 97 pts, palliative procedures in 3 (2%). 16 ± 6 hours was average ICU treatment, 4.5 hours extubation time, 4.5 days in hospital stay. Early complications (effusions, PH, re-operations) had 17 (18%) pts, 4 deaths (4%). Follow up of late complications (1-36 months) reveal arrhythmias in 23 patients and 17 (18%)with postthoracotomic syndrome. Reoperation was performed in one patient, and 97% of them have had clinical and echographic improvement

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МИНИНМАЛНА ИНВАЗИВНА ТОРАКОТОМИЈА

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ВОВЕД: Минималната инвазивна хирургија (МИХ) применета кај елективни пациенти е нов помалку инвазивен пристап на хирургијата на отворено срце. МАТЕРИЈАЛ И МЕТОДИ:10 пациенти, 4 женски и 6 од машки пол, просечна возраст 36.3 години, со срцеви мани беа елективно мини инвазивно кардиохируршки третирани, во 09.-12. 2005 година. АСД II имаа 5, митрална стеноза 4 и ВСД 1 пациент. Во NYHA II беа 45%

а NYHA III 36%. Кај сите извршена десна мини торакотомија, просечна должина на кожен рез 10 см. Предоперативно сите имаа епидурален катетер. Време на клемувана аорта 62.6 минути, ЕКЦ 71.6. минути и индуцирана атријална фибрилација 9.4 минути (АСДII). Валвуларен репласман беше изведен кај 2, реконструкција кај 2, patch пластика на АСД кај 4, директна сутура на АСД II кај 2 пациента. Кај 2 пациента дополнително трикуспидна реконструкција, кај 1 десна атриопластика. Во сала се екстубирани 5 пациенти, а просечно време на екстубација во ICU беше 2.5 часа. Просечната дренажа изнесуваше 310 мл. 36 % од пациентите примале ниска аналгетска доза, а 36% средно-висока. 45% од пациентите беа без катехоламини, 45% со нисокодозирани катехоламини, 1 пациент со среднодозирани, просечно траење на катехоламинска терапија 46.7 часови. Кај 54% од пациентите имало потреба од поинтензивна респираторна терапија, а 10% имале аритмии. Просечен престој во болница 5.5 денови. Ниту еден пациент не заврши летално. Кај еден пациент постоперативно се појави парцијална пареза на дијафрагмата. Ниеден од пациентите не беше реоперирал. ЗАКЛУЧОК: МИХ е безбедна и ефикасна процедура за редукцијата на интраоперативниот стрес, болка, дренажа, катехоламинска стимулација, болнички денови кај пациентите

MININMAL INVASIVE SURGERY

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BACKGROUND: Minimal invasive surgery (MIS) performed in elective patients, combined with epidural anesthesia is a new, less invasive approach in open heart surgery. RESULTS: 10 patients, 4 female and 6 male, average 36.3 years with congenital and acquired heart diseases, electively underwent minimal surgery toracotomia between 09-12.2005. ASD II were 5 pts, mitral stenosis 4, and one VSD. NYHA class II, 45% ; NYHA class III, 36%. Right mini toracotomia performed in all, average length of scission 10 sm. Epidural catheter was implanted in all before surgery. Cross-clamped aorta average 62.6 min, ECC 71.6. min, and time for induced fibrillation 9.4 min in ASD's. Valve replacement was done in 2, reconstruction in 2, patch closure of 4 ASD's, direct suture in 2 pts, with additional tricuspid reconstruction in 2, and right atrioplasty in one ASD patient. On table extubated 5 pts, a mean time of extubation in ICU 2.5 hours. 310 ml was average drainage, low analgesic dosage received 36 %, and medium 36%. Without catecholamines were 5, low dosage 4, and 1 with medium inotropic stimulation, duration of therapy mean 46.7 hours. 1 pt had partial relaxation of diaphragm. Intensive respiratory treatment was performed in 54%, arrhythmia occured in 10%. Average in hospital stay was 5.5 days, without death, as well as reoperations. CONCLUSION: MIS is effective and safe procedure in reducing of intraoperative stress and pain, blood reduction, inotropic drugs and in hospital stay of patients with minimal cosmetics defects.

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LEFT ATRIOPLASTY IN THE THREATMENT OF CHRONIC ATRIAL FIBRILATION

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Aim: To present the efficacy of left atrioplasty in the treatment chronic atrial fibrillation in patients with mitral valve disease and large left atrium. Material and methods: From 05/2002 to 03/2006, 37 patients (21 female, 16 male, mean age of 54.9 years) suffering from mitral valve disease and chronic AF, underwent mitral valve surgery and left atrioplasty. Atrioplasty of left atrium was performed in 12 patients; and in 25 patients with enlarged left and right atrium, biatrioplasty was performed. 11 patients underwent mitral valve replacement, and 27 patients had native mitral valve repair. Twenty-eight patients had tricuspid reconstruction. Results: No hospital death occurred in this series. Echocardiography data showed significant reduction of the left atrium diameters (48.3 mm postoperative; 80.5mm preoperative). During the hospital stay until the discharging from hospital; 26 patients (70.2%) recovered sinus rhythm and 11 remained with AF. After 3 months of follow up 23 (62.1%) patients remained sinus rhythm; and 3 had recurrent AF. After 6 months all 23 patients presented stabile sinus rhythm without need of anti-arrhythmic therapy. Conclusion: Suggested technique of left atrioplasty is effective and practical method to treat chronic atrial fibrillation in patients with mitral valve disease and large left atrium, and the reduction of the left atrium dimension is the crucial part of the treatment.

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EPIDURAL ANESTHESIA IN CARDIAC SURGERY

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Introduction: The purpose of this study was to present our initial experience with the use of combined high epidural thoracic anesthesia (HTEA) with general anesthesia (GA) in unselected patients for open-heart surgery. Material and methods: From November 2005 to January 2006, 75 patients were subjected to open heart surgery using HTEA and GA. Unstable angina was present in 42 (56%). Forty eight (64%) were classified as New York Heart Association class III or IV. Preoperative ejection fraction was 39 ± 13. Median sternotomy was performed in 70 (93%) patients, right antero-lateral thoracotomy in 4(5%) and median laparotomy in 1 patient. Aorto coronary bypass (ACB) was done in 45 (60%) of the patients with 5 (7%) off pump cases, ventriculoplasty and valve reconstructive surgery in 8 (11%) of the patients, valve replacement was done in 12 (16%) of the patients, mitral valve reconstruction in 6 (8%) of the patients. Two patients required intra aortic balloon pump support. Results: All patients remained stable throughout

the procedure, with 29 (39%) extubated in the operating theater, 15 (20%) extubated within 5 hours following the procedure, 17 (23%) within 10 hours and 14 (18%) after 10 hours. Average first mobilization time was 31 ± 17 hours. Average intensive care unit stay (ICU) was 40 ± 31 hours and hospitalization time of 8.6 ± 4.6 days. Average postoperative visual analog scale for pain was 3.5 ± 0.9. Conclusion: HTEA with GA in unselected patients has shown to be safe

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IMMEDIATE "ON TABLE" EXTUBATION AFTER OPEN HEART SURGERY

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Introduction: combined high epidural thoracic anesthesia (HTEA) with general anesthesia (GA) allows safe immediate "on table" extubation. Material and methods: From November 2005 to January 2006, 75 patients were subjected to open heart surgery using HTEA and GA. Unstable angina was present in 42 (56%). Forty eight (64%) were classified as New York Heart Association class III or IV. Preoperative ejection fraction was 39 ± 13. Aorto coronary bypass (ACB) was done in 45 (60%) of the patients with 5 (7%) off pump cases, ventriculoplasty and valve reconstructive surgery in 8 (11%) of the patients, valve replacement was done in 12 (16%) of the patients, mitral valve reconstruction in 6 (8%) of the patients. Average cross clamp time was 46 ± 24 minutes, pump time was 82 ± 36 minutes, and average procedure duration was 128 ± 34 minutes. Results: Twenty nine (39%) patients were extubated in the operating theater, 15 (20%) extubated within 5 hours following the procedure, 17 (23%) within 10 hours and 14 (18%) after 10 hours. None of the patients required reintubation and all remained hemodinamically stable in the postoperative period. Average postoperative visual analog scale for pain was 3.5 ± 0.9. Average intensive care unit stay (ICU) was 40 ± 31 hours and hospitalization time of 8.6 ± 4.6 days. Conclusion: HTEA with GA in open heart procedures allows immediate postoperative extubation, with no complications, minimal pain, early mobilization and short ICU and hospital stay.

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AWAKE OFF PUMP CORONARY BYPASS GRAFTING: STEP CLOSER TO AMBULATORY CARDIAC SURGERY

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Objective: This report will summarize our experience with off pump coronary artery bypass (OPCAB) in awake patients using high thoracic epidural anesthesia (TEA) without general endotracheal anesthesia. Material and methods: Between April 2002 and March 2005,10 patients underwent OPCAB with TEA in our hospital. There were 8 males, 2 females, with average age 62.2±7.8. TEA catheter was inserted in all patients on day prior to surgery. Results: All patients remained hemodynamically and respiratory stable during the procedure, fully alert and conscious. Full median sternotomy was performed in all patients. All patients received LIMA to LAD. Average anastomosis time was 7.9 ± 0.8 minutes, with average surgery duration of 71.7 ± 22.1 minutes. Three patients with EF < 30% received low dose inotropic support perioperatively and in the immediate postoperative period. Average VAS (Visual analog scale) was 2.1 ± 0.8. This allowed early mobilization in all patients within hours from operation, and 2 patients were able to leave the operating theatre walking to their beds in the intermediate care. Both were discharged in second day following surgery. Average in hospital stay was 4.2 ± 1.1 days. There was no mortality or morbidity. Conclusion: OPCAB in awake patients using high TEA without general endotracheal anesthesia can be safely performed in selected group of patients. This approach reduces postoperative pain, allows faster mobilization and recovery, with shortened hospital say.

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ХИРУРШКИ ТРЕТМАН НА ИСХЕМИЧНА МИТРАЛНА ИНСУФИЦИЕНЦИЈА

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Вовед: среднокliничките и ехографските резултати после митрална валвуларна хирургија при хронична исхемична митрална регургитација (МР), се иследуваа да се евалуира валидноста на критериумот за хирурски третман и примена на нашата новокреирана валвуларна сутурна анулопластика. Методи: Од 2000-2006,179 пациенти со исхемична МР беа третирани со МВ хирургија (166 реконструкции и 13 замени) Митрален ринг (>3.5цм) и регургитација >+2, беа клинички фактор за примена на хируршки третман. 87 пациенти добија комбинирана хирургија: АЦБП, ЛВ аневризмектомија и МВ хирургија.Новокреираната сутурна анулопластика го реконструира задниот дел на митралниот анулус, користејќи дуполи продолжен шав, со подврзување после секој паралелен шав. Резултати: 51пациент (26.5%) добија трансвентрикуларна митрална анулопластика комбинирана со АЦБП и ЛВ аневризмектомија; 33 (17.1%) добија трансатријална митрална анулопластика, 34 (17.7%) комбинирана со трикуспидна анулопластика, 60 (30.2%) добија трансатријална митрална валвуларна анулопластика (24 ДеВега,4 комплексна реконструкција, 32 новиот вид на сутурна анулопластика) 6 пациенти добија ринг, 2 беа реоперирани (ринг дехисценција) 13 пациенти добија протеза. Интраоперативното ТЕЕ покажа пораст на ЕДВ, намалување на систолниот градиент и попраст на ЕФ. 5 пациенти со Де Вега анулопластика развија МР>+3,2 се реоперираа,19 умреа. Преживување е 89.5%,

follow up период 1-72. Заклучок: Корекцијата на хроничната исхемична МР, дава добри мидтерм резултати со повеќе од 89% преживување во NYHA класа I/II. Пациентите реконструирани по новата техника беа со подобар клинички исход.

SURGICAL TREATMENT OF ISCHEMIC MITRAL VALVE INSUFFICIENCY

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Background: midterm clinical and echocardiographic results after mitral valve (MV) surgery for chronic ischemic mitral regurgitation(MR) were investigated to evaluate validity of criteria for surgical treatment and applying of our new created suture annuloplasty. Methods: From 2000-2006,179pts with ischemic MR underwent MV surgery(166 repairs and 13 replacements).Mitral ring (> 3,5 cm,)and regurgitate jet (>+2) were key factor that allowed surgical treatment.87pts underwent combined surgery:CABG,LV aneurysmectomy and MV-surgery.New created suture annuloplasty reconstructed posterior part of mitral annuli using double continuous suture,with knotting after every parallel bite.Results: 51pts (26.5%)had transventricular mitral valve anulloplasty combined with CABGandLV aneurysmectomy;33 (17.1%)had transatrial mitral annuloplasty.34(17,7%)combined with tricuspid annuloplasty.60(30,2%)had transatrial mitral valve annuloplasty(24pts-DeVega annuloplasty, 4-complex reconstruction and 32pts-new kind of suture annuloplasty).6pts got flexible ring,2had been reoperated(ring dehiscention).13pts got mitral valve replacement.Intraoperative TEE showed decreasing of average valve systolic gradient25±5.7mmHg/ 7±0.9mmHg, with decreasing of EDV volumen for additional 40ccm(reducing of subvalvular space),with increasing of EF:20±5.2%/ 35±4.3%.5pts with DeVega annuloplasty developed MR>+3, and 2had been reoperated.19 pts died.Actuarial survival was 89.5%,follow up period 1- 72 CONCLUSION: Correction of chronic ischemic MR provides good midterm survival rate with more than 89% of survivors in NIHAclassI/ II. Pts with our new created suture annuloplasty had better clinical outcom

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LEFT VENTRICLE SURGICAL RECONSTRUCTION DURING OFF PUMP CORONARY ARTERY BYPASS GRAFTING

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Background: to evaluate feasibility of left ventricle surgical reconstruction (LVSR) while performing off-pump coronary artery revascularization (OPCAB). Material and methods: From January 2004 to January 2006, 12 patients were subjected LVSR during OPCAB. There were 9 male and 3 female, median age 55 ± 10. Twelve (100%) patients had previous myocardial infarction, 8(66%) were CCS III or IV, 9(75%) were NYHA III or IV class. Preoperative EF 26 ± 11, with EDVd 255 ± 71ml and 182 ± 66ml. Dyskinesia was present in 9(75%), previous CVI in 11(92%) patients. Results: In average we performed 1.3 graft per patient using OPCAB. All patients received left internal mammary to left anterior descending artery, additionally left radial artery as a "T" graft was used for revascularization. LVSR was done last using size 1 Prolene suture, plicating the anteroapical segment of the left ventricle. There were no operative complications. Perioperative transoesophageal echocardiography showed reduction of the EDVd 206 ± 52ml and EDVs 129 ± 34ml, EF increased to 33 ± 5%. Moderate to high inotropic support was needed in 8(67%) of patients. Six (50%) were extubated in the first 6 hours, average ICU stay of 45 ± 12 hours and hospital stay of 6.9 ± 2 days. There were no early deaths. Follow up ranged from 2 to 30 months, EF increased in average to 38 ± 6%, with no morbidity and mortality. Conclusion: LVSR during OPCAB in our experience is safe procedure with good early and midterm results.

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MANAGEMENT IN ACUTE CORONARY SYNDROME WITH SEVERE HEART FAILURE: SUPPORTIVE TREATMENT WITH INTRAAORTIC BALLOON PUMP

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Background: Supportive treatment with IABP is a valuable bridging up to time of CABG procedures in patients with ischemic left ventricular pump failure. Material and Methods: During the 18 month period (November 2004 to April 2006), from 735 patients with CAD, 55(7%) were admitted as acute coronary syndrome, 193(26%) with unstable angina. Left main involvement was present in 102(14%). We analyzed 138 pts, Killip class III-IV. Eleven of them had IABP implanted (group I), whereas 9 pts had medical support only (group II). All pts (I group) received a Fidelity 8Fr Catheter with sheetless percutaneous femoral insertion. Results: The meantime to surgery was significantly smaller in I group (4.0±2.1 days), versus (9.7±2.9) in group II ($p<0.01$). In the I group preoperative value of the CO (5.4±0.8 l/min) was bigger then in II group (4.3±0.4 l/min) ($p<0.001$); increasing of the LVSW were the same in the both groups as well as the and decreasing the PWP despites the fact of the higher doses of the inotropic support in the patient in II group ($p<0.05$). Conclusions: IABP is a useful supporting treatment in the acute phase of ACS improving hemodynamic, decreasing ICU stay in the time of patient's preparation to bypass grafting reducing inotropic support pre/after surgical treatment.

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TRANSOESOPHAGEAL ECHOCARDIOGRAPHY IMAGING FOR DIAGNOSIS OF ACUTE AORTIC DISSECTION

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The Aim of this study is to compare the sensitivity and specificity of CT scan and TEE for diagnosis of acute aortic dissection (AD). Materials and Methods: From 01/2002 to 10/2005, 110 operative procedures on the dilated ascending aorta were performed, 45(40.9%) were operations of acute dissections (Stanford type A classification, De Bakey type I and II). All the patients (pts) with suspected aortic dissection underwent TEE examination, 45/45(100%), CT scanning with contrast 42(93.3%), while aortography was performed in 3(6.6%). Both techniques (TEE and CT) were compared with intra operative findings (IOF) and sensitivity and specificity was determined by standard formula for five parameters: aortic dilatation, false lumen and intimal flap, coronary involvement, pericardial effusion, and aortic regurgitation. Mean age 54,3±10,39 (range 38 to 74), with preoperative status: shock and metabolic disorders 24(53.3%) cardiac tamponade 8(17.7%), neurological abnormalities 10(22.2%), hypertension 36(80,1%). Results: TEE shows 100% sensitivity for all parameters except for coronary involvement 7/12 (58.3%), pericardial effusion (92.3%). CT shows sensitivity of 93.3% for dilatation, 80% for false lumen, 25% for coronary involvement and 69.2% for effusion. The specificity of TEE was 100% for aortic regurgitation, coronary involvement, pericardial effusion, so was with CT value for the first two parameters. Conclusion: Preoperative TEE is time-effective, exact and accessible method.

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TRANSESOPHAGEAL ECHOCARDIOGRAPHY IN THE EARLY POSTOPERATIVE PERIOD FOLLOWING OPEN HEART SURGERY

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Aim: To assess the importance of using TEE in critically ill patients in the intensive care unit, and its role in managing the patients that underwent cardiac surgery. Material and methods: We analyzed TEE echocardiografic data of 53 patients (29 male and 24 female, mean age 62.4 years) in the period from 03/2000 to 03/2006. Thirty six (67.9%) had revascularization of the myocardium and 29 (54.7%) had additional aneurismectomy (12 patients), mitral valve reconstruction (16 patients), aortic valve replacement (4 patients), postinfarct VSD closure (1 patient). 14 patients (26.4%) underwent valve surgery, 11 of them had mitral valve surgery; 4 had aortic valve surgery, and 3 patients had both aortic and mitral valve surgical treatment. Forty six (86.7%) patients were on mechanical ventilation and under sedatives, while 7(13.2 %) paients were awake and cooperative. Results: Reasons for performing TEE were: evaluation of the left ventricle function in 32(60.3 %), malfunction of the valves in 9 (16 %) pericardial tamponade in 8 (15 %) and aortic dissection in 3 (5.6%) patients. TEE findings helped to change the pattern of managing in 30 (56.6%) patients, including change of pharmacological treatment in 25 (83.4%), implantation of IABP in 3 (10%) and rethoracotomy in 2 (6.6%) patients. Conclusion: TEE is giving reliable data for the condition of critically ill patients in the early postoperative period confirming or excluding the reason for haemodinamic instability.

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ИНТРАОПЕРАТИВНА ТРАНСЕЗОФАГЕАЛНА 3Д ЕВАЛУАЦИЈА НА СРЦЕТО

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Вовед: Да се евалуира целисходноста на примената на 3Д ехокардиографијата во тро-димензионалната реконструкција на срцевата морфологија. Методи:3Д ехокардиографија беше применета на 25 пациенти во операциона сала во тек на кардиохируршкиот третман. Мултиплана 5MXз сонда беше користена за 3Д ехокардиографското снимање пред пациентите да бидат конектирани на машината за екстракорпорална циркулација и после тоа. Резултати: 25 пациенти беа проследени. Следниве кардијални заболувања беа анализирани: исхемична дилататива кардиомиопатија- 11 пациенти, валвуларни заболувања - 3 со митрална, 5 со аортна, 1 со трикуспидна валвуларна болест, 1 пациент со атријален тумор, 3 со аортна аневризма, 1 со исхемично ВСД. Кај сите пациенти колор Доплер беше користен во 3Д реконструкцијата, при што се добиени повеќе анатомски информации отколку со дводимензионалната ехокардиографија кај оние пациенти кај посебно е битна морфологијата на залистоците, левовентрикуларната геометрија, како и ВСД димензиите. Заклучок: 3Д ехокардиографијата со примена на трансезофагеален трансдјусер е значајна техника, која ја подобрува проценатa на анатомските детаил на кардијалните структури, посебно при ЛВ ремоделирањето, евалуацијата на митралната валвула, атријалниот и вентрикуларниот септум.

INTRAOPERATIVE 3D TRANSOESOPHAGEAL EVALUATION OF THE HEART

Anguseva T.1, Mitrev Z.1, Georgieva B.1

1 Special Hospital for Cardiosurgery Fillip II

Objective: To evaluate echocardiography accuracy in performing and obtaining images for dynamical three-dimensional (3D) reconstruction. Methods: 3D image reconstruction was obtained in 25consecutive patients who underwent transoesophageal echocardiography in the operative theatre, during cardiosurgery treatement. A mulptiplaner 5MHz transducer was used for 3D reconstruction, before patient had been connected to the heaqrt lung machine and got a planed surgical treatment and after that. Results:25patients were studied consecutively.The following cardiac diseases were present: ischemic dilative cardiopathy – 11pts, valvular diseases- 3with mitral, 5with aortic, 1 with tricuspid; 1patient with atrial tumor, 3with aortic aneurysm, 1 with ischemic VSD. In all pts,color Doppler was also obtained and used for 3D flow reconstruction.3D reconstruction give more anatomical information than two dimensional echocardiography in those patients especially in morphology of the leaflets, as well as left ventricle geometry and VSD dimension. Conclusion:3D echocardiography using a transesophageal transducer is a feasible technique, which improves detection of anatomical details of cardiac structures, particulary of the LV geometric reshaping, mitral valve and atrial septum.

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LEFT VENTRICULAR NONCOMPACTION: CARDIOMYOPATHY, DIAGNOSED IN YOUNG MAN WITH SEVERE BRAIN STROKE WITHOUT KNOWN HEART DISEASE - A CASE REPORT

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A 37 years old young man was admitted to our hospital because of an episode of severe brain stroke (1 month ago) and echocardiographic data for impaired cardiac function without signs of heart failure. Brain CT imaging demonstrated large focal lesion in the area supplied by the right middle cerebral artery. Our echocardiographic examination demonstrated noncompaction of the left ventricular myocardium, with characteristic findings of prominent and excessive ventricular trabeculations and deep intratrabecular recesses in the left ventricle. On 4-chamber standard view severe systolic dysfunction was observed. Magnetic resonance imaging of the heart confirmed the existence of abnormal inner zones of noncompacted myocardium with noncompaction/compaction myocardium ratio >2 within affected segments. MRI examination demonstrated very large affected area - more than ½ of the left ventricle wall circumference – apex, anterior, posterior, inferior and lateral walls except from the septum with their apical and middle segments. There were no data for right ventricle involvement. Left ventriculography was performed, confirming results from MRI and echocardiography, with LV EF 19%. 24-hour ECG was performed which showed nonsustained VT and LBBB. The treatment was that for chronic heart failure, arrhythmia and thromboembolism. Due to good rehabilitation and therapy the patient had no signs of heart failure and neurologic deficiencies were improved.

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ОТКРИВАЊЕ И ФРЕКФЕНЦИЈА НА АРИТМИИ ЗА ВРЕМЕ НА КОРОНАРНИОТ TRADEMILL TECTOT

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Вовед: Срцевите аритмии од различна етиологија, морфологија и класа можат да бидат индуцирани или пак изгубени при физичкото оптоварување при Коронарниот Стрес Тест (КСТ). Од особено значење е нивното навремено и точно препознавање и регистрирање, како за безбедноста на испитувањето така и за дијагностичката точност. Цел: Заради детерминирање на нивната честота и можностите за детекција направивме анализа на сите консекутивни пациенти испитани во Лабораторијата за КСТ при Институтот во текот на една година. Материјал и методи: Обработени се сите консекутивни 5962 пациенти во текот на 2005 година. Компјутерски надграденият апарат за КСТ, марка Marquet Hellige GE Cardio Sys 5, го користиме стандардно во нашата Лабораторија. Пациентите беа оптоварувани според стандардниот протокол по Брус (Bruce) со цел да се достигне соодветниот максимален кардиоваскуларен капациетет според возраста полот и упатната дијагноза. Резултати: Од вкупниот број на испитани пациенти кај 3.7%, односно 221 пациент, не беше достигнато предвиденото оптоварување доволно за дијагностика. Кај останатите пациенти беа детектирани кај вкупно 1109 или 18.6% постоење на индуцибилна аритмија, додека кај 739 или 12.4% постоечката аритмијапред тестот се повлече при напор. Од детектираните аритмии најголем процент представуваа поединечни и парови на Вентрикуларни Екстрасистоли (ВЕС) кај 910 или 82%; Кај останатите се бележи Суправентрикуларна тахикардија - ТПСВ кај 14,7%; Атријална фибрилација кај 23 пациенти или кај 2,1% и кај 13 пациенти или 1.2% појава на Вентрикуларна тахикардија (ВТ) која спонтано се терминираше во фазата на одмор. Кај ниту еден пациент не дојде до развој на малигна аритмија ниту на Вентрикуларна фибрилација (ВФ). Заклучок: Навремената и точна детекција и проценка на важноста на секоја срцева аритмија за време на ова динамичко испитување, од страна на медицинската сестра, има особена важност за точна дијагностика и безбедност на пациентите.

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ЗНАЧЕЊЕТО НА 24-ЧАСОВНИОТ ЕКГ ХОЛТЕР МОНИТОРИНГ ВО ЕВАЛУАЦИЈА НА АРИТМИИТЕ КАЈ ПАЦИЕНТИ ПОСЛЕ КАРДИОХИРУРШКИ ТРЕТМАН

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1 Специјална Болница за Кардиохирургија Филип Втори

Вовед: Инциденцата на новопројавени аритмии е 23% после кардиохируршки третман. За типизација на аритмиите и одредување на антиаритмичната терапија се применува 24-часовниот ЕКГ Холтер мониторинг.Материјал и методи: Корелација меѓу дијагнозата на пациентите оперирани во СБК Филип Втори и аритмијата, во период од 01.03 2003-01.04.2006 година.Резултати: Новонастаната аритмија имаше кај 156 (4.8%) пациенти. Новонастанати аритмиите кај пациентите со валвуларна хирургија имаше кај 95(61 %), и кај 61 пациент со бајпас хирургија (39%). Најчести аритмии се регистрирани при третман на митрална валвула и тоа: новонастанат атријален фиброфлатер, ВЕС, СВЕС, АВ блок I степен, додека 4 пациенти имаа комплетен блок од III степен (индикација за имплантирање на траен пејсмејкер). Многу помал процент на аритмии е регистриран кај пациенти со третман на аортна валвула и тоа најчесто VES, тахиаритмија и кај 1 пациент регистриран е АV блок III степен со индикација за имплантирање траен пејс мејкер. Кај пациентите со бајпас хирургија регистрирана беше висока корелација со појава на несигнификантна ектопична активност од типот на VES или SVES, LOWN 4A и LOWN 4B, AV блок од I степен и повремени пристапи на тахиаритмија абсолута. Заклучок: 24-часовна ЕКГ Холтер дијагностика е високо сензитивна и специфична метода во класификацијата и третманот на аритмиите и кај пациенти после кардиохируршки третман. Постои повисок индекс на корелација на аритмии кај пациентите после валвуларна хирургија што е поврзано со оперативната техника. Нашиот Центар има доста низок процент на новонастани аритмии во компарација со светската статистика.

THE MEANING OF 24 HOURS EKG HOLTER MONITORING IN EVALUATION OF ARRYTHMIAS IN PATIENTS AFTER CARDIOSURGICAL TREATMANT

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Introduction: The percentage of postoperative arrithimias in patients underwent cardiovascular surgery is 23%. To categorize the arrithmias and to determine the antiarrythmic therapy a 24 hour EKG (Holter) monitoring was performed. Material and methods: The incidence of postoperative arrythmias in patients underwent cardiovascular surgery in special hospital for cardiosurgery "Filip II" Skopje from 01.03.2003 to 01.04.2006. Results: The total number of patients with postoperative arrhythmia was 156 (4.8%). 95 (61%) patients with valvular surgery and 61 (39%) bypass surgery patients had postoperative arrhythmia. The detected types of arrythmias in patients with mitral valve surgery were: postoperative atrial fibrillation, premature ventricular contractions (PVC), supraventricular extrasistoly (SVES), AV block of I degree, and 4 patients with complete AV block. After surgical treatmant of aortic valve these types of arrythmia were detected : PVC, AFF and one patient with total AV block. In patients underwent bypass surgery a high incidence of unsignificant ectopic activity was detected: PVC (LOWN 4A and LOWN 4B), SVES; AV block of I degree and short episodes of AFF.Conclusion: 24

hour EKG (Holter)is sensitive and specific method in classification and menaging of arrythmias after cardiosurgical treatement. There is a high index of correlation between arrhythmias and valvular surgery dependings of operative technique. Compared to the world statistic of postoperative arrythmias, we have success and very good result.

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ШТО Е СРЦЕВА ЕЛЕКТРОФИЗИОЛОГИЈА?

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Срцевата електрофизиологија е субспецијалност од кардиологијата посветена на изучување на електричната активност на срцето што доведува до нормална или пореметен срцев ритам. Изучување на клеточната активност е наречена клеточна или целуларна електрофизиологија. Електричниот систем на срцето е составен од клетки кои генерираат електрична активност преку движење на јони од внатрешноста на клетката кон надвор и обратно. Понатамошно движење на електричната активност кон мускулните клетки доведува до контракција на срцевите шуплини. Проучување на пореметениот срцев ритам и начинот на кој се лекуваат овие аритмии се нарекува клиничка електрофизиологија. Во најголем број од случаи запис на пореметениот ритам со неинвазивни методи не доведува до објаснување зашто се јавува аритмијата, ниту пак до дефинирање на нејзината морфологија. Електрофизиолошката студија е инвазивно испитување при што се внесуваат електродни катетери во срцето (најчесто во локална анестезија преку вените на нозете, рацете, вени на вратот и под клучната коска) со цел да се одреди причината, местото каде настанува, морфологија, и дали таа артимија има потреба од понатамошен третман. Одредени аритмии можат да бидат излечени со внесување во срцето специјален, аблативен, катетер на местото каде аритмијата се движи. Преку овој аблативен катетер се аплицира радиофреквентна струја која на врвот од катетерот се претвара во топлотна енергија и преку аблација, или "горење" на внатрешната површина на срцевата шуплина го "уништува" патот по кој се движи аритмијата. За некои видови аритмија аблацијата може да биде успешна во над 95% од случаите. Првата електрофизиолошка студија, заедно со радиофреквентна катетер аблација, во Македонија направена е на 24 февруари 1993 година. Од тогаш до денес направени се над 650 процедури, при што во 60% од процедурите изведена е аблација на клиничката аблација со целосен успех од над 95%.