underwent repair of concomitant intracardiac anomalies (two mitral valve replacement, six septal defect closure). Mean bypass time was 112.6±21.1 min. Ischemic time was 85.5±18.9 min. Intraoperative and postoperative echocardiography revealed satisfactory coronary results in all cases. TV regurgitation was mild to moderate and no transvalvular pressure gradient was observed. One patient (3.8%) died on the fifth day after surgery. He developed severe enlargement of right-heart chambers and refractory heart failure caused by severe TV regurgitation before operation. Total follow-up ranged from two to 25 years (mean 10.4±5.3). There were no late deaths. At latest follow-ups, all patients were I-II NYHA. Freedom from reoperation was 92%.

Conclusions: In majority of cases surgical correction of the post-traumatic tricuspid regurgitation, mostly reconstructive type, shows low operative mortality and high symptomatic improvement.

**CP-219**

**RISEING OF BIOPROSTHESIS BIOCOMPATIBILITY DEGREE WITH CHITOZANE NANOCOVERINGS**

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Creation on the surface of the glutaraldehyde stabilised biotissue the non-toxic nanocoverings, having bounding capacities against residual aldehyde groups, can effectively enhance durability and biocompatibility of cardiac valve bioprostheses.

Objectives: The aim was to analyse the development of technology for creation on the biotissue surface stable nanocoatings from chitozane derivates and to study the influence of such coverings on durability and biocompatibility of bioprostheses.

Methods: For investigation it was used calf pericardium, cross-linked by glutaraldehyde. Biotissue was modified with chitozane derivatives in supercritical carbon dioxide conditions. Transmission and scanning electron microscopy were used for investigation of pericardium surface characteristics. Tissue calcinosis was studied using rat model of subdermal implantation of pericardium. Cytotoxicity was estimated on mouse fibroblast culture.

Results: It was evidenced the possibility of creation on the surface of the glutaraldehyde treated biotissue nanosize chitozane uniforme stable films under the conditions of the supercritical carbon dioxide. Transmission and scanning electron microscopy were used for investigation of pericardium surface characteristics. Tissue calcinosis was studied using rat model of subdermal implantation of pericardium. Cytotoxicity was estimated on mouse fibroblast culture. Antimicrobial properties of tissue were determined in experiments with its dissemination by S. Epidermidis and E. coli. Tissue mechanical properties were studied by the uniaxial stretch device.

Conclusions: Performed study offers new reliable approaches for creation of new generation of bioprostheses, having pronounced durability, high biocompatibility and good resistance against infection.

**CP-220**

**SHORT-TERM RESULTS OF SURGICAL TREATMENT FOR INFECTIVE ENDOCARDITIS OF INTRAVENOUS DRUG ABUSE (IVDA) PATIENTS**


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Objective: To define indications and short-term results of infective endocarditis treatment in IVDA patients.

Methods: Between March 1996 and May 2010 a total of 50 IVDA patients underwent operation for infective endocarditis. Four of them were reoperated. In the study group, 26 patients were men and 24 women, aged from 19 to 42 (mean age - 27.8 years), there were 40 cases (84.8%) of isolated tricuspid valve involvement, four - prosthetic endocarditis (with bioprosthetic tricuspid valve involvement in all cases); two - combined involvement of tricuspid and aortic valves, two - tricuspid and mitral valve involvement, one - isolated mitral valve involvement, one - multiple valve (three valves) involvement.

Results: Clinic performance was defined by evidence of intoxication, cardiac insufficiency symptoms, embolic syndrome: 36 patients - double polysemental pneumonia complicated by an abscess; two - splenelocis.

Three patients required detoxication apparatus methods due to acute renal failure. In 15 cases (30%) Strept. Epidermiditis was detected, in 15 cases (30%) - Staph. Aureus. In three cases IE was caused by the association of Streptococcus and Staphylococcus, in five cases - by Gram-negative culture. Three patients had fungal endocarditis (Candida). Negative blood culture and negative culture of organisms from the surgical specimen were in nine cases (19.6%). Thirty-seven patients underwent isolated TV replacement: two - mechanical prostheses, the rest - biological prostheses. In three cases vegetation with TV plasty and annuloplasty were performed. In 33 cases with isolated TV involvement right-sided thoracotomy was used as the main surgical approach. Two patients underwent TVR and AVR; two - TVR and MVR; one - aortic valve replacement. One patient underwent multiple valve (three valves) replacement. Four patients had to be reoperated for tricuspid prosthesis replacement due to reinfection and development of prosthetic tumendocarditis. The period of the secondary intervention - from two weeks to eight years. Hospital mortality was equal to 2.2%.

Conclusions: IVDA does not contraindicate surgical intervention as far as patients with infective endocarditis are involved. Evidence of ARE and polysegmental pneumonia should not interfere with active surgical tactics. In case of isolated tricuspid replacement right-sided thoracotomy as surgical approach is preferable. Immediate results of surgical treatment for this group of patients should be considered satisfactory.

**CP-221**

**PATIENTS PROSTHESIS MISMATCH IN AORTIC VALVE REPLACEMENT**

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Objective: The objective of this study was to evaluate the clinical significance of patient-prosthesis mismatch (PPM) and development of practical recommendations for adequate valve selection before an operation.

Methods: To assess the prevalence of PPM and its influence on long-term survival, symptomatic status and quality of life. We studied 500 consecutive patients undergoing aortic valve replacement. PPM was defined in 70 cases (14%). Patients with effective orifice area (EOA)/body surface area (BSA) ratio of <0.85 cm2/m2 showed unstable postoperative haemodynamic performance, excessive transvalvular gradients, decreased left ventricular hypertrophy regression. Overall postoperative mortality was in 27 cases (5.4%). Postoperative mortality in the group of patients with PPM (indexed EOA <0.85 cm2/m2) was 35.6% (25 cases). Patients with and without PPM were not similar with respect to the postoperative mean transvalvular gradient (21±7 mmHg vs. 14±5 mmHg, respectively). In patients with EOA>0.65 cm2/m2 the mean transvalvular gradient was 35±2 mmHg. Moreover, long-term results also demonstrated that only in patients with PPM haemodynamic performance declined.

Results: It is in fact possible to prevent PPM if one takes into account certain factors (BSA of a patient, aortic valve fibrous ring size, type and effective orifice diameter of prosthesis) directly before an operation.

Conclusions: The optimal haemodynamic performance after aortic valve replacement is noted to occur when EOA/BSA ratio is of >0.85 cm2/m2. In case of isolated tricuspid replacement right-sided thoracotomy as surgical approach is preferable. Immediate results of surgical treatment for this group of patients should be considered satisfactory.

**CP-222**

**DOUBLE-VALVE PROCEDURES WITH ‘CARDIAMED EASY CHANGE’ MECHANICAL VALVE PROSTHESSES**


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Objective: Authors present their primary series of double-valve procedures with ‘Cardiamed’ mechanical valve prostheses in new modification ‘Easy Change’.

Methods: The essence of the ‘Easy Change’ modification is detachable cuff, with the ‘plug-and-socket’ valve housing. Since 2009, 11 patients (four women) underwent aortic and mitral valve replacement (AVR-MVR) with this type of prostheses. There were four (36.3%) women. Mean age was 45±3±1.3 years. Disease etiology was rheumatic in eight (72.7%) of patients, and infective endocarditis in two (26.3%). In two cases the ‘Cardiamed Easy Change’