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HEART FAILURE IN THE PATIENT WITH ACROSSED INFECTIOUS ENDOCARDITIS ON THE CONGENITAL BICUSPIDAL VALVE OF AORTA

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Heart failure is a common cause of high mortality of patients all over the world. Arising on a background of complicated tonsillitis in patients with congenital heart diseases that significantly impairs the quality of life of patients and worsens the prognosis. Radical remains combined treatment of the patient with the elimination of complications.

For example, with clinical case report demonstrates and discusses the results of surgical and therapeutic treatment of heart failure with complications in the early postoperative period in a patient with congenital heart disease (bicuspid aortic valve).

KEY WORDS: valve replacement, heart failure, congenital heart disease

СЕРЦЕВА НЕДОСТАТНІСТЬ У ПАЦІЄНТА З ПЕРЕНЕСЕНИМ ІНФЕКЦІЙНИМ ЕНДОКАРДИТОМ НА ВРОДЖЕНОМУ БІКУСПІДАЛЬНОМУ КЛАПАНИ АОРТИ

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Серцева недостатність є частою причиною високої смертності пацієнтів у всьому світі. Виникає на тлі ускладнених тонзилітів у пацієнтів з вродженими пороками серця, що значно порушує якість життя пацієнтів і погіршує прогноз. Радикальним залишається комбіноване лікування пацієнта з усуненням виниклих ускладнень.

На прикладі клінічного випадку демонструються та обговорюються результати хірургічного та терапевтичного лікування серцевої недостатності з розвитком ускладнень в ранньому післяопераційному періоді у пацієнтів з вродженою вадою серця (бікуспідальним аортальним клапаном).

КЛЮЧОВІ СЛОВА: протезування клапана, серцева недостатність, вроджений порок серця

СЕРДЕЧНАЯ НЕДОСТАТОЧНОСТЬ У ПАЦИЕНТА С ПЕРЕНЕСЕННЫМ ИНФЕКЦИОННЫМ ЭНДОКАРДИТОМ НА ВРОЖДЕННОМ БИКУСПИДАЛЬНОМ КЛАПАНАЕ АОРТЫ

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Сердечная недостаточность является частой причиной высокой смертности пациентов во всем мире. Возникает на фоне осложненных тонзиллитов у пациентов с врожденными пороками сердца, что значительно нарушает качество жизни пациентов и ухудшает прогноз. Радикальным остается комбинированное лечение пациента с устранением возникших осложнений.

На примере клинического случая демонстрируются и обсуждаются результаты хирургического и терапевтического лечения сердечной недостаточности с развитием осложнений в раннем послеоперационном периоде у пациента с врожденным пороком сердца (бicuspidальным аортальным клапаном).

КЛЮЧЕВЫЕ СЛОВА: протезирование клапана, сердечная недостаточность, врожденный порок сердца

INTRODUCTION

Chronic heart failure (CHF) is an abnormality of cardiac structure and/or function leading to failure of the heart to deliver oxygen at a rate commensurate with the requirements of the metabolizing tissues, despite normal filling pressures (or only at the expense of increased filling pressures) [1].

One of the reasons for the development of heart failure in patients with prosthetic valves is transferred bacterial endocarditis, including on congenital heart defects (such as bicuspid aortic valve).

Even in the event of a delay in seeking surgical treatment, this tactic is optimal for the stabilization stage heart failure and to prevent progression of the disease [2–3].

The need for surgical treatment, we demonstrated on the example of clinical case.

OUR PATIENT

29 years old men, pensioner, IT specialist, city resident. Date of admission: 19 – September – 2016.

COMPLAINS

Fatigue, dyspnea (paroxysmal nocturnal dyspnea (PND)), tachycardia, dizziness, swelling of lower limbs.

ANAMNESIS MORBI

In December 2012, suffered a sore throat, occurred for the first time. He was admitted to Institution of general and urgent surgery V.T. Zaycev NAMS of Ukraine in February 2013 for diagnosis of CHD: Infective endocarditis of the aortic valve, acute phase. Septicaemia (*Str.pneumoniae*). AV insufficiency III degree. MV insufficiency II degree. Congenital bicuspid aortic valve. HF IIB st., II FC. Patient received treatment with a course of antibiotics. He was offered surgical treatment which he at that moment refused. After discharge, the patient's condition began to deteriorate, growing signs of heart failure.

September 15th 2014 he was admitted in Kiev Heart Institute. September 22th 2014 – valvular replacement. Aortic (St. Jude #25) and mitral (St. Jude #29) valves. Was transferred from the intensive care with a temporary pacemaker. In the early postoperative period: frequent paroxysms of atrial flutter, frequent episodes of AV-block III degree, one episode of asystole with resuscitation. Oktober 13th 2014

– pacemaker implantation (St. Jude Verity DC (DDD)).

Results of echocardiography before surgery (15.04.2014): Aortic valve: bicuspid; cusps prolapse; hyperechogenic formation up to 5–8 mm. insufficiency +++, pressure gradient of 28 mm Hg. The diameter of the aorta 2.9 cm/4.2 cm/4.3 cm; aortic arch – 3.9 cm; Mitral valve: chords are sealed with visualized hyperechogenic formation, it is not excluded, the «old» calcifications of the growing season; insufficiency ++; EF=63 %.

Results of transesophageal echocardiography before surgery (17.09.14): Aortic valve: bicuspid; small hyperechogenic formations on wings AK, insufficiency +++; Mitral valve: signs of infectious endocarditis with the defeat of MV due to chronic trauma aortic insufficiency (small hyperechogenic vegetation, moving 3–4 mm; hyperechogenic, the conglomerate on chords of MV.

ANAMNESIS VITAE

In the early childhood was diagnosed with congenital heart disease. Bicuspid aortic valve. Complaints of fatigue, poor exercise capacity. Surgical treatment was deferred until reaching adulthood. Other infections, injuries, tuberculosis, sexually transmitted diseases were denied. Hereditary diseases are not identified.

Allergological history is not burdened.

OBJECTIVE STATUS

General condition – moderate grave, conciseness – clear, posture – active, body position – sitting on the chair. Patient can orientate himself in place, time, his personality. Height – 170 sm, weight – 102 kg, BMI – 35,29. Skin and mucosae are pink. Thyroid: no pathological changes. Skeleto-muscular system – deformity of the chest after sternotomy. BR – 20 /min. Lung percussion: pulmonary below scapula angles from both sides. Lung auscultation: decreased vesicular breathing wheezes inferial parts both sides. Borders of the heart: left border – outside of midclavicular left line on 4 cm. Heart auscultation: heart tones rhythmic, melody of mechanical valve on aortic and mitral valves. Pulse – rhythmic, 65 bts/min (during receiving blockers). BP 110/70 mm Hg. Abdomen: symmetric, increased in size due to subcutaneous fat. Liver: +1 cm. Spleen: normal. A sign of costovertebral angle tenderness is negative on both sides. Edemas: absent.

Varicose vein disease of lower extremities – absent. Feces: everyday, normal color.

PLAN OF SURVEY IN THE HOSPITAL

Clinical blood test (CBT) and urine analysis, kidneys and liver function tests, electrolytes, lipid profile, INR – international normalized ratio, electrocardiography (ECG), chest X-ray, echocardiography with doppler.

RESULTS

Clinical blood test: Normal test.

Urine analysis: Normal test.

Biochemistry test: Normal test.

Electrolytes: Normal test.

Lipid profile: Normal test.

INR: Normal test.

Electrocardiography: Left ventricular hypertrophy.

Chest x-ray: without pathological changes in the lungs. Pacemaker in left subcostal area, visible electrode to RV.

Heart ultrasound: Aortic valve: prosthesis, gradient – 28/19 mm Hg. Mitral valve: prosthesis, pressure gradient – 19/10 mm Hg. Pericardium and pleural cavities without fluid. EF – 63 %.

Status after aortic and mitral valves replacement (prosthetic valves) (2014). The prosthesis is functioning correctly.

COMPLETE DIAGNOSIS OF OUR PATIENT

Mechanical prosthesis of aortic and mitral valves bileaflet type (22/09/2014) due to

infective endocarditis of congenital bicuspid aortic valve (congenital heart disease) and mitral valve with predominance of insufficiency. Total AV-block III degree. Pacemaker statement St. Jude Verity DC (DDD) (13/10/2014). Total heart failure with preserved left ventricular pump function (ejection fraction = 63 %), C stage, II functional class by NYHA.

TREATMENT

Dietary sodium and fluid restrictions should be implemented in all patients with congestive heart failure. Limiting patients to 2 g/day of dietary sodium and 2 L/day of fluid will lessen congestion and decrease the need for diuretics.

Warfarin 5 mg 1 time/day, bisoprolol 10 mg 1 time/day, ramipril 2.5 mg 1 time/day, spironolactone 25 mg 1 time/day, torasemide 10 mg 1 time/per 5 days.

CONCLUSIONS

Infective endocarditis developed on the background of congenital heart disease (bicuspid aortic valve), which led to changes of heart chambers and caused heart failure. For compensation of heart failure we did surgical heart valve replacement. In the postoperative period such complication as complete AV block was developed, for treatment of which pacemaker was implanted. Thanks to a timely and comprehensive treatment, the patient is fully compensated.

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