

“Bridge to recovery” kao strategija implantacije lijevostrane srčane pumpe: prikaz bolesnika

Left ventricular assist device implantation as bridge to recovery: case report

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Prikazujemo bolesnika kod kojeg je osam mjeseci nakon implantacije srčane pumpe HeartMate 3 (HM 3)¹ učinjena eksplantacija pumpe nakon oporavka sistoličke funkcije. Radi se o 60-godišnjem bolesniku sa simptomima lijevostranog srčanog zatajivanja od rujna 2014. godine. Osim fibrilacije atrija, bolesnik nije imao drugih komorbiditeta. Inicijalni ehokardiografski nalaz je prikazao tešku disfunkciju lijeve klijetke (LVEDD 6,4 cm) i teško reduciranu sistoličku funkciju lijeve klijetke s ejekcijskom frakcijom (LVEF) 20%. Koronarografijom je prikazana nesignifikantna stenoza lijeve prednje silazne arterije (LAD). Unatoč optimalnom medikamentoznom liječenju, u lipnju 2015. godine, zbog nepostojanih ventrikulskih tahikardija implantiran je kardioverter-defibrilator. Perzistentno teško reducirana sistolička funkcija lijeve klijetke zahtijevala je implantaciju srčane pumpe kao potporu lijevoj klijetki. Nakon implantacije srčane pumpe provedeno je redovito mjesečno kliničko praćenje, koje je uključivalo kontrolu srčane pumpe te klinički i ehokardiografski pregled. Zabilježeno je kliničko poboljšanje, praćeno ehokardiografskim oporavkom EFLV. Sedmi postoperativni mjesec bilježi se LVEF od 50-55%, zbog čega je donesena odluka o eksplantaciji HM 3. Protokol odvajanja je uključivao hospitalnu evaluaciju vodeći se hemodinamskim i ehokardiografskim parametrima. Testiranje srčane funkcije je provedeno u tri koraka: uz normalnu potporu pumpe (1. korak), minimalna potpora pumpe (2. korak) i zaustavljanjem pumpe, balon-okluzijom izlaznog grafta (3. korak). Prvi korak je proveden mjesec dana prije eksplantacije (LVEF 50%, LVEDD 5,2 cm, VO₂ 19 ml/min/kg, PCWP 14 mmHg). Drugi korak je proveden dva dana prije eksplantacije (LVEF 50%, LVEDD 5,4 cm, VO₂ 18 ml/min/kg, PCWP 15 mmHg). Konačni treći korak je napravljen u hibridnoj operacijskoj sali sa zaustavljanjem pumpe balon-okluzijom izlaznog grafta. Nakon transezofagusnom ehokardiografijom potvrđene očuvane funkcije LV i hemodinamskog mjerenja (očuvana LVEF, CO 4,3-5,0 L/min, PCWP 14 mmHg, SVO₂ 80%) donešena je konačna odluka o nastavku eksplantacije. Postoperativno se bilježi potpuni klinički oporavak bolesnika. Ehokardiografski se prikazala očuvana EFLV, bez dilatacije srčanih šupljina. Bolesnik je u dobrom kliničkom stanju otpušten 20. dan nakon eksplantacije HM 3.

We present a case of Heart Mate 3 (HM 3)¹ explant after recovery of heart function eight months after implantation. Our patient is 60-year-old man with left side heart failure symptoms since September 2014. At the time he had atrial fibrillation and no other comorbidities. Initial echocardiographic finding was severe left ventricular impairment (left ventricular diastolic diameter - LVEDD 6.4 cm; reduced left ventricular ejection fraction - LVEF 20%). Initial coronary angiography exposed non-significant left anterior descending (LAD) artery stenosis. Despite optimal medicamentous treatment the patient suffered from repetitive non sustained ventricular tachycardias and had intracardiac defibrillator implanted in June 2015. Persistent left ventricular failure required implantation of the left ventricular assisted device - LVAD. The patient was followed during monthly external consultation, including device inspection, clinical examination and transthoracic echocardiography. Follow-up revealed clinical improvement with recovery of myocardial activity at echocardiography. On postoperative month 7, the echocardiography confirmed ventricular function improvement with an LVEF 50-55%. These led to the decision to remove the assist device. The weaning protocol included in-hospital evaluation consisting of echocardiography and hemodynamic measurements. Testing of cardiac function was performed under regular pump support (step 1), minimal LVAD support (step 2) and pump stop with balloon occlusion of outflow graft (step 3). Step 1 was performed one month prior to explantation (LVEF 50%, LVEDD 5.2 cm, VO₂ 19 ml/min/kg, PCWP 14 mmHg). Step 2 was performed 2 days prior to explantation (LVEF 50%, LVEDD 5.4 cm, VO₂ 18 ml/min/kg, PCWP 15 mmHg). The final 3rd step was performed in the hybrid operating theatre with pump stop and balloon occlusion of outflow graft. After confirming preserved left ventricular function with TEE and hemodynamic measurements (preserved LVEF, CO 4.3-5.0 L/min, PCWP 14 mmHg, SVO₂ 80%) final decision was made to proceed with explantation immediately thereafter. The patient fully recovered after surgery. His postoperative echocardiography showed normal ejection fraction, with no heart cavities dilatation. Patient has been discharged 20 days after HM 3 explant in a good condition.

LITERATURE

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