Visokorizična perkutana koronarna intervencija potpomognuta ekstrakorporalnom membranskom oksigenacijom

High-risk percutaneous coronary intervention facilitated by extracorporeal membranous oxygenation

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KLJUČNE RIJEČI: visoko rizična perkutana koronarna intervencija, potpora ekstrakorporalnom membranskom oksigenacijom, ishod.

KEYWORDS: high risk percutaneous coronary intervention, extracorporeal membranous oxygenation, outcome.

CITATION: Cardiol Croat. 2016;11(10-11):465. | DOI: <http://dx.doi.org/10.15836/ccar2016.465>

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Uvod: Bolesnici sa visoko rizičnim lezijama koronarnih arterija, kao oni s okluzijom debla, višezilnom koronarnom bolešću srca, jedinom preostalom žilom, oslabljenom funkcijom lijeve klijetke (LK), ili napredujućom ishmijom, sve su više podvrgnuti perkutanoj koronarnoj intervenciji (PCI). Zbog rizika od periproceduralne hemodinamske nestabilnosti i komplikacija većina se visokorizičnih postupaka izvodi uz pomoć mehaničke cirkulacijske potpore. Nedavno je ekstrakorporalna membranska oksigenacija (ECMO) predložena kao mehanička potpora visokorizičnoj PCI.^{1,2}

Prikaz slučaja: Bolesnica u dobi od 76 godina hospitalizirana je u Koronarnu jedinicu zbog nestabilne angine pectoris. Čimbenici rizika su bili dislipidemija i loše kontrolirana arterijska hipertenzija. Transtorakalna ehokardiografija (TTE) je pokazala blago reduciranu sistoličku funkciju LK te akineziju prednje stijenke LK. Koronarografijom je verificirana višezilna koronarna bolest srca sa signifikantnom stenozom debla, signifikantnom stenozom ostijalnog dijela lijeve koronarne arterije, srednjeg dijela cirkumfleksne arterije, ostijalnog, proksimalnog i distalnog dijela desne koronarne arterije te visoko signifikantnom bifurkacijskom stenozom ACx/prva marginalna grana (MEDINA 0,1,1). Syntax score je iznosio 41. Visoka životna dob i kalcificirana aorta su bili razlozi za odustajanje od operativnog zahvata. Zbog visokorizične PCI upotrebljena je veno-arterijska ECMO potpora te je učinjena potpuna koronarna revaskularizacija uz optimalan završni rezultat. TTE, učinjen neposredno prije otpusta bolesnice, pokazao je poboljšanje sistoličke funkcije LK i tijekom dvogodišnjeg praćenja bolesnica je bila bez tegoba (angina pectoris CCS I).

Zaključak: ECMO potpora je razumna opcija za visoko rizične perkutane koronarne intervencije. Prema našem mišljenju najvažnije je na vrijeme prepoznati potrebu za hemodinamskom potporom kako bi se izbjegle periproceduralne komplikacije. Nadalje, važno je imati dobro educiran tim kako bi se rizik od mogućih ECMO komplikacija sveo na minimum.

Introduction: Patients with complex or high-risk coronary lesions, such as those with the critical stenosis of left main, multi-vessel coronary disease or last remaining vessel, are increasingly being treated with percutaneous coronary intervention (PCI). Periprocedural hemodynamic compromise and complications may occur rapidly so many of these high-risk procedures are being performed with some kind of mechanical circulatory support. Recently, an extracorporeal membranous oxygenation (ECMO) was suggested as a mechanical support for high risk PCI.^{1,2}

Case presentation: We present a case of a 76-year-old female who was hospitalized in Coronary Care Unit due to unstable angina. Echocardiography showed mildly reduced systolic function of left ventricle (LV) with akinesia of anterior wall of LV. Coronary angiogram revealed multivessel disease, with significant stenosis of left main, significant stenosis of ostial portion of left anterior descending artery, midportion of left circumflex artery (ACx), ostial, proximal and midportion of right coronary artery and bifurcational highly significant stenosis of ACx with the first obtuse marginal branch (MEDINA 0,1,1). The calculated Syntax score was 41. Cardiac surgeon denied operation due to advanced age of the patient and calcified aorta. Due to high-risk PCI, veno-arterial ECMO support was introduced and total coronary revascularization was done with an optimal final result. Pre-discharge echocardiography showed improved systolic function and two years' follow-up is without any drawbacks (stable angina pectoris CCS I).

Conclusion: ECMO mechanical support is a reasonable option for patients with a high-risk PCI. In our opinion it is of utmost importance to recognize the need for hemodynamic support on time in order to avoid periprocedural complications. Furthermore, it is important to have highly trained team in order to reduce possible ECMO related complications to the bare minimum.

LITERATURE

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RECEIVED:
September 24, 2016

ACCEPTED:
October 10, 2016