

OPTIMIZATION OF PERCUTANEOUS CORONARY INTERVENTION WITH OPTICAL COHERENCE TOMOGRAPHY

Zoran Perišić¹, Nenad Božinović¹, Mihajlo Lazarević¹

¹University Clinical Center Niš, Cardiology Department, Niš, Serbia

Contact: Zoran Perišić
12A Sterijina St., 18000 Niš, Serbia
E-mail: perisic.zoran@me.com

Optical coherence tomography (OCT) is a method which provides precise insight into the morphology of the coronary arteries. The application of OCT can evaluate atherosclerotic plaques, stoutness of fibrous cap, and also gives precise illustration of the stent position in the coronary artery.

A 72 year old woman was received with acute myocardial infarction with ST segment elevation in anterolateral leads and immediately was sent to catheterization lab for PCI. During the procedure, we found occluded left circumflex artery and after predilatation two stents were implanted. Flow rate of stents was very slow and signs of stent thrombosis were registered. The flow rate was not restored after post-dilatation and thrombus aspiration. Due to rapid worsening of condition of the patient, the surgery was ceased, and we continued therapy with GP inhibitors, anticoagulant and antithrombotic therapy. After 7 days, coronary angiography was repeated and OCT system was used. We found substantial apposition of stents with some struts at up to 0.5 mm distance from the coronary artery wall. Post-dilatation was done with the larger balloon sized according to the arterial diameter, and subsequently the thrombosis disappeared and struts were close to the coronary artery wall. The patient was discharged from hospital with dual antiplatelet therapy in a good condition.

OCT is a new diagnostic method which provides exceptionally easy and precise identification of unexpanded stents in coronary arteries, which present main mechanical cause for stent thrombosis after PCI.

Acta Medica Medianae 2021;60(2):69-76.

Key words: *optical coherence tomography, percutaneous coronary intervention, stent apposition, coronary thrombosis*