

Čimbenici rizika za bolest koronarne mikrocirkulacije u akutnom koronarnom sindromu

Risk factors in coronary microcirculatory disease and acute coronary syndrome

Tihana Kurjaković¹,
Ivica Bošnjak²,
Kristina Selthofer-
Relatić^{*2}

¹Medicinski fakultet,
Sveučilišta J.J. Strossmayer
Osijek, Osijek, Hrvatska

²Klinički bolnički centar Osijek,
Osijek, Hrvatska

¹School of Medicine, University
Josip Juraj Strossmayer
Osijek, Osijek, Croatia

²University Hospital Centre
Osijek, Osijek, Croatia

KLJUČNE RIJEČI: koronarna mikrocirkulacija, spolna razlika, pretilost.

KEYWORDS: coronary microcirculation, gender difference, obesity.

CITATION: *Cardiol Croat.* 2016;11(10-11):456. | DOI: <http://dx.doi.org/10.15836/ccar2016.456>

***ADDRESS FOR CORRESPONDENCE:** Kristina Selthofer-Relatić, Klinički bolnički centar Osijek, Cara Hardijana 10E, HR-31000 Osijek, Croatia. / Phone: +385-31-511717 / E-mail: selthofer.relati@gmail.com

ORCID: Ivica Bošnjak, <http://orcid.org/0000-0002-0223-4287>

Kristina Selthofer-Relatić, <http://orcid.org/0000-0002-9890-6489>

Uvod: Prema dosadašnjim istraživanjima, disfunkcija koronarne mikrocirkulacije se definira kao redukcija koronarne rezerve i/ili endotelna disfunkcija, koja se prezentira tipičnom anginom u odsutnosti drugih bolesti miokarda/kardiovaskularnog sustava ili sistemskih bolesti, s ishemijskim elektrokardiografskim promjenama i urednim, ili minimalno promijenjenim, koronarogramom. Glavni patofiziološki mehanizam je endotelna disfunkcija s poremećenom vazodilatacijom, koagulacijom, upalom, poremećajem permeabilnosti i adhezijom, s promijenjenim mikrovaskularnim odgovorom.^{1,2} **Cilj:** Odrediti spolnu razliku i povezanost čimbenika rizika sa sporim koronarnim protokom kod bolesnika bez značajnih promjena epikardijalnih koronarnih arterija, a s tipičnim anginoznim smetnjama.

Pacijenti i metode: U studiju je uključeno 30 bolesnika (14 muškaraca, 16 žena) hospitaliziranih zbog anginoznih smetnji, s ishemijskim elektrokardiografskim promjenama, normalnim koronarogramom i sporim koronarnim protokom. Svim ispitanicima učinjena je standardna biokemijska analiza i dinamika kadioselektivnih enzima, mjerenje arterijskog tlaka i antropometrijska mjerenja, transtorakalna ehokardiografija i koronarna angiografija.

Rezultati: Pojavnost arterijske hipertenzije, šećerne bolesti, dislipidemije, nikotinizma i obiteljske anamneze nisu pokazali značajnu razliku među spolovima u ispitivanoj populaciji. Dob uključenih ženskih i muških ispitanika značajno se razlikovala ($p=0.032$), muškarci su značajno mlađe dobi. Rani stadij porasta tjelesne težine, ITM preko 25 kg/m², pokazuje značajnu pojavnost u ispitivanoj populaciji oba spola.

Zaključak: Osim standardnih čimbenika rizika za bolest koronarne mikrocirkulacije, pretilost i starenje mogu predstavljati važne nekonvencionalne faktore za razumijevanje kliničke slike i mogućnosti liječenja.

Background: According to previous studies, dysfunction of coronary microcirculation (CMD) is defined as reduced coronary flow reserve and/or endothelial dysfunction, presented with typical angina in absence of other myocardial/cardiovascular or systemic diseases, with electrocardiographic ischemic changes and normal/minimally changed coronarogram. The main pathophysiologic mechanism of CMD is endothelial dysfunction with impaired vasodilatation, coagulation, inflammation, permeability, cell adhesion, and altered microvascular response.^{1,2} **Aim:** To determine gender difference and risk factors in patients with slow flow coronary phenomena, without significant epicardial coronary artery stenosis, and typical angina-like chest pain.

Patients and Methods: The study included 30 patients (14 males, 16 females) hospitalized because of chest pain, with ischemic electrocardiographic changes, normal coronarogram and coronary slow flow. To all patient standard biochemical blood analysis with cardiac enzymes were done, blood pressure and anthropometric measurements, transthoracic echocardiography and coronary angiography.

Results: Arterial hypertension, diabetes mellitus, dyslipidemia, nicotinizmus and family history did not showed significant gender difference, but significance was found in age range ($p=0.032$), male patients was younger than female. Also, early stage of weight increase, BMI over 25kg/m², could present risk factor for coronary slow flow in both gender.

Conclusion: In addition to standard risk factors that underlie coronary microcirculatory disease, obesity and ageing should be considered as a part of clinical presentation and aspect for further treatment.

LITERATURE

1. Novo G, Novo S. Coronary microvascular dysfunction: an update. *eJournal of the ESC Council for Cardiology Practice.* 2014;13(5). Available at: <http://www.escardio.org/Journals/E-Journal-of-Cardiology-Practice/Volume-13/Coronary-microvascular-dysfunction-an-update> (20.9.2016).
2. Selthofer-Relatić K, Bošnjak I, Kibel A. Obesity related coronary microvascular dysfunction: from basic to clinical practice. *Cardiol Res Pract.* 2016;2016:8173816. DOI: <http://dx.doi.org/10.1155/2016/8173816>

RECEIVED:
September 25, 2016

ACCEPTED:
October 10, 2016

