

Recurrent in-stent restenosis and refractory postpericardiotomy syndrome

 **Jelena Jakab¹***,
 **Domagoj Mišković^{1,2}**,
 **Katica Cvitkušić Lukenda^{1,2}**,
 **Krešimir Gabaldo^{1,2}**,
 **Marijana Knežević Praveček^{1,2}**,
 **Blaženka Miškić^{1,2}**,
 **Irzal Hadžibegović^{1,3}**

¹Faculty of Dental Medicine and Health, J. J. Strossmayer University of Osijek, Osijek, Croatia, ²General Hospital "Dr. Josip Benčević" Slavonski Brod, Slavonski Brod, Croatia

³University Hospital Dubrava, Zagreb, Croatia

KEYWORDS: in-stent restenosis, postpericardiotomy syndrome, percutaneous coronary intervention, coronary artery bypass graft.

CITATION: *Cardiol Croat.* 2022;17(9-10):170. | <https://doi.org/10.15836/ccar2022.170>

***ADDRESS FOR CORRESPONDENCE:** Jelena Jakab, Fakultet za dentalnu medicinu i zdravstvo, Crkvena 21, HR - 31000 Osijek, Croatia. / Phone: +385-99-1902-538 / E-mail: jelena.jakab@gmail.com

ORCID: Jelena Jakab, <https://orcid.org/0000-0002-5023-4409> • Domagoj Mišković, <https://orcid.org/0000-0003-4600-0498> Katica Cvitkušić Lukenda, <https://orcid.org/0000-0001-6188-0708> • Krešimir Gabaldo, <https://orcid.org/0000-0002-0116-5929> Marijana Knežević Praveček, <https://orcid.org/0000-0002-8727-7357> • Blaženka Miškić, <https://orcid.org/0000-0001-6568-3306> Irzal Hadžibegović, <https://orcid.org/0000-0002-3768-9134>

Background: In-stent restenosis (IRS) and postpericardiotomy syndrome (PPS) are considered complications that can occur after percutaneous coronary intervention (PCI) and coronary artery bypass grafting (CABG). IRS is a gradual re-narrowing of the stented segment because of neointimal tissue proliferation. PPS is triggered by damage to the mesothelial cells of the pericardium, leading to the stimulation of the immune response.^{1,2}

Case report: 67-year-old male patient was repeatedly admitted to our department since 2016. The first PCI with drug-eluting stent (DES) implantation in the proximal segment of the left circumflex artery (LCX) was performed in another hospital due to non-ST-elevation myocardial infarction. Over a 4-year period, the patient underwent eight repeat PCIs with noncompliant balloons and drug-coated balloons, including three times with DES implantation and once with IVUS guidance. During this time, the patient was treated with corticosteroids and once with sirolimus which resulted in acute hemorrhagic enterocolitis and posthemorrhagic anemia. In 2019, transthoracic echocardiography (TTE) revealed ischemic mitral regurgitation of moderate severity. Due to numerous PCIs of the LCX and limited vascular access, the patient underwent CABG surgery (VSM-OM2) in April 2021. In July 2021, the patient was diagnosed with PPS and has been admitted to our department for recurrences four times since then. TTE revealed a moderate pericardial effusion (1.7 cm) that resolved after administration of corticosteroid and colchicine. Azathioprine and ibuprofen were initiated, as was the oral hypoglycemic agent due to iatrogenic diabetes mellitus. A comprehensive immunologic workup revealed no immunologic abnormalities. The patient is now asymptomatic and has had no recurrent episodes of PPS since January 2022.

Conclusion: Most patients with IRS require repeat PCI and the role of surgery is uncertain. The use of DCB angioplasty instead of DES is reasonable when possible. First-line therapy for PPS includes NSAIDs and colchicine, while corticosteroids are effective in refractory cases. As fourth-line agents studies support the use of IL-1 inhibitors, intravenous immunoglobulin, and azathioprine or methotrexate and mycophenolate mofetil, although limited evidence is available.

RECEIVED:
November 3, 2022

ACCEPTED:
November 10, 2022



LITERATURE

1. Clare J, Ganly J, Bursill CA, Sumer H, Kingshott P, de Haan JB. The Mechanisms of Restenosis and Relevance to Next Generation Stent Design. *Biomolecules*. 2022 Mar 10;12(3):430. <https://doi.org/10.3390/biom12030430>
2. Imazio M, Andreis A, Piroli F, Lazaros G, Gattorno M, Lewinter M, Klein AL, Brucato A. Anti-interleukin 1 agents for the treatment of recurrent pericarditis: a systematic review and meta-analysis. *Heart*. 2021 Mar 18;heartjnl-2020-318869. <https://doi.org/10.1136/heartjnl-2020-318869>