

The role of coronary computed tomography-angiography in post-procedural assessment of the coronary artery aneurysms: a case report

 Lidija Pleš*,
 Antun Zvonimir
Kovač,
 Kata Ćorić,
 Petar Medaković,
 Ladislav Pavić,
 Mladen Jukić

"Agram" Special Hospital,
Zagreb, Zagreb, Croatia

KEYWORDS: coronary artery aneurysm, coronary computed tomography angiography, post left ventricular assist device related complications.

CITATION: *Cardiol Croat.* 2022;17(9-10):242. | <https://doi.org/10.15836/ccar2022.242>

***ADDRESS FOR CORRESPONDENCE:** Lidija Pleš, Specijalna bolnica Agram Zagreb, Trnjanska cesta 108, HR-10000 Zagreb, Croatia. / Phone: +385-1-3046-000 / E-mail: lidija.ples123@gmail.com

ORCID: Lidija Pleš, <https://orcid.org/0000-0003-2302-5852> • Antun Zvonimir Kovač, <https://orcid.org/0000-0001-6276-4450>
Kata Ćorić, <https://orcid.org/0000-0003-4904-0380> • Petar Medaković, <https://orcid.org/0000-0002-7173-8286>
Ladislav Pavić, <https://orcid.org/0000-0002-8048-998X> • Mladen Jukić, <https://orcid.org/0000-0002-3927-3888>

Introduction: Coronary computed tomography angiography (CCTA) is an accurate noninvasive diagnostic test for diagnosing coronary artery disease (CAD), evaluation of intracoronary stent patency and percutaneous coronary intervention (PCI) related complications.^{1,2} Coronary artery aneurysm formation is one of the possible post PCI complications.³ The aim is to present a case of coronary artery aneurysm assessed by serial CCTA after intracoronary stent placement.

Case report: 54-year-old man with previously known CAD and low adherence to prescribed therapy that was treated with multiple PCI and intracoronary stents was referred to our hospital for a follow-up CCTA to evaluate the possibility of CAD progression and stent patency. Baseline post-PCI CCTA in 2019 revealed normal stents patency and moderate CAD with no sign of aneurysm. Among risk factors, arterial hypertension, dyslipidemia and heavy smoking was revealed with no chest symptoms. Two follow up CCTA were performed. First follow up CCTA revealed progression of CAD in proximal circumflex artery (Cx) with mild in-stent restenosis and newly outpouching of the mid Cx between two stents consistent with the formation of partially thrombosed coronary artery aneurysm (CA). CA considerably increased in diameter (9 vs 17 mm) and amount of thrombosis at the second post PCI follow up CCTA with subocclusion of distal stent.

Conclusion: CCTA serves as a guidance tool to plan interventional procedures as it allows three dimensional assessment of coronary atherosclerotic plaque features and also procedure and disease related complications.

RECEIVED:
November 4, 2022

ACCEPTED:
November 10, 2022



LITERATURE

1. Knuuti J, Wijns W, Saraste A, Capodanno D, Barbato E, Funck-Brentano C, et al; ESC Scientific Document Group. 2019 ESC Guidelines for the diagnosis and management of chronic coronary syndromes. *Eur Heart J.* 2020 Jan 14;41(3):407-477. <https://doi.org/10.1093/eurheartj/ehz425>
2. Andreini D, Collet C, Leipsic J, Nieman K, Bittencurt M, De Mey J, et al. Pre-procedural planning of coronary revascularization by cardiac computed tomography. *J Cardiovasc Comput Tomogr.* 2022 Aug 22;S1934-5925(22)00274-X. <https://doi.org/10.1016/j.jcct.2022.08.003>
3. Gade CL, Lin F, Feldman DN, Weinsaft JW, Min JK. Assessment of coronary artery aneurysm after stent placement for myocardial infarction: evaluation by multidetector computed tomography. *J Cardiovasc Comput Tomogr.* 2008 Mar-Apr;2(2):117-9. <https://doi.org/10.1016/j.jcct.2007.12.013>