

# Evaluation of aneurysm after coronary stent implantation by optical coherence tomography

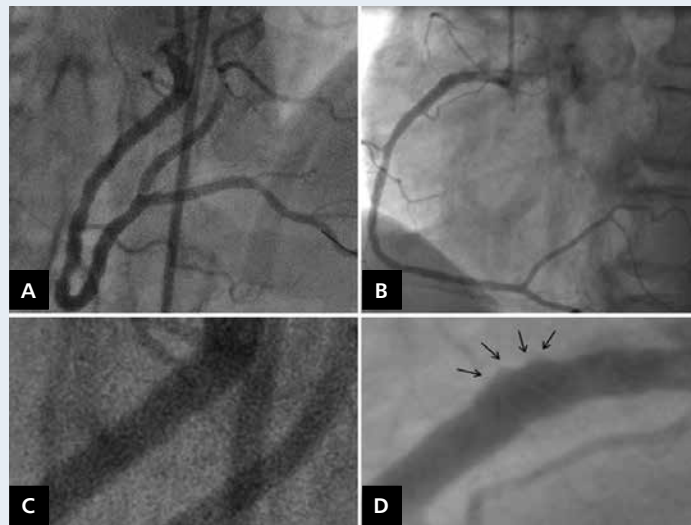
Zastosowanie koherentnej tomografii optycznej do oceny tętniaka po implantacji stentu do tętnicy wieńcowej

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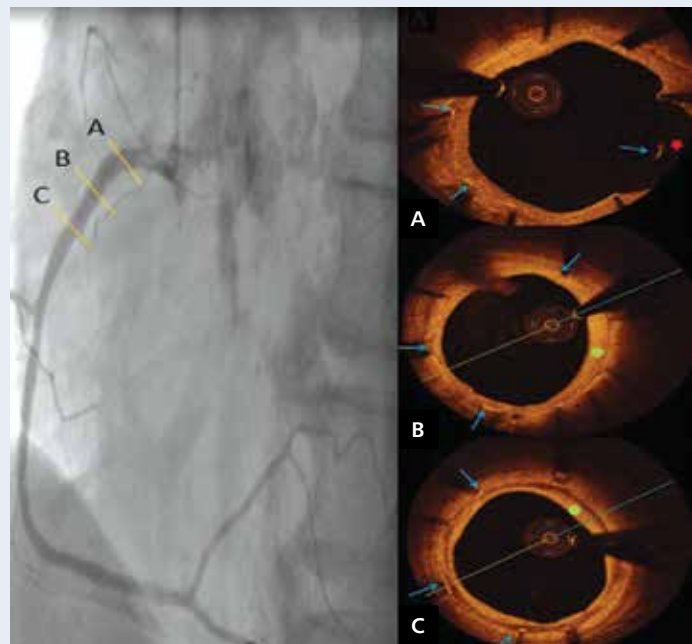
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A 47 year-old man with dyslipidaemia was admitted with acute ST-elevation myocardial infarction of the inferior wall with total occlusion of the right coronary artery (RCA). After the administration of medical treatment, thrombus aspiration was applied to the vessel and a 3.0 × 28 mm bare stent was deployed to the RCA at 18 atm. After the intervention (PCI), coronary angiography (CAG) revealed TIMI flow 3 (Figs. 1A, C). The patient's clinical status had improved. Six months later, he was admitted to our hospital complaining of atypical chest pain. After an abnormal exercise treadmill stress test, we performed control CAG which showed a coronary artery aneurysm at the stented site without restenosis (Figs. 1B, D). Optical coherence tomography (OCT) demonstrated the presence of an aneurysm without intramural thrombus and disruption of the neointima extending into the aneurysm. Other side of stent struts were well apposed and covered by neointimal tissue proliferation (Fig. 2).

This case report demonstrates that dyslipidaemia and a high thrombus burden are common risk factors for aneurysm. Moreover, it supports the mechanisms for coronary artery aneurysm which have been speculated upon by Yoshikawa et al. (J Am Coll Cardiol Intv, 2010; 3:1300–1302). OCT yields novel insights into the processes of re-endothelialisation and neointimal formation following coronary intervention. Additionally, it can be used to determine coronary abnormalities, such as coronary artery aneurysm after stent implantation.



**Figure 1.** A, C. Coronary angiography after primary intervention; B, D. Six-month follow-up angiography. Coronary artery aneurysm detected without restenosis



**Figure 2.** OCT of coronary artery aneurysm. While the red star in A corresponds to aneurysm, green asterisks in B and C show neointimal tissue proliferation

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**Conflict of interest:** none declared