



Case Report

Coronary artery aneurysm formation 7 months after bare-metal stent implantation: Intravascular ultrasound and optical coherence tomography observation

Tsuyoshi Nakata (MD)^a, Kenichi Fujii (MD)^{a,*}, Masashi Fukunaga (MD)^a,
Mitsumasa Ohyanagi (MD, FJCC)^b, Tohru Masuyama (MD, FJCC)^a

^a Cardiovascular Division, Hyogo College of Medicine, 1-1 Mukogawa-cho, Nishinomiya, Hyogo, 6638501, Japan

^b Division of Coronary Heart Disease, Hyogo College of Medicine, Nishinomiya, Japan

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KEYWORDS

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Summary Late-acquired angiographic coronary aneurysm formation after drug-eluting stent implantation is a rare phenomenon but potentially life-threatening event that has become a major cause of concern. Optical coherence tomography (OCT) is a high-resolution imaging method that allows detailed evaluation of stent strut coverage and characterization of neointimal tissue. This case report describes the possible mechanism of late-acquired angiographic coronary aneurysm formation after bare-metal stent implantation using OCT and intravascular ultrasound.

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Introduction

Recently, several cases of late acquired coronary aneurysm formation leading to stent thrombosis after drug-eluting stent deployment were reported. Several mechanisms of coronary aneurysm formation after drug-eluting stent were elucidated with the use of intracoronary imaging modalities, including intravascular ultrasound (IVUS) and optical coherence tomography (OCT) [1]. However, there have been a

few reported cases using OCT to assess coronary aneurysm formation after bare-metal stent implantation. This case report describes IVUS and OCT findings of coronary aneurysm formation after bare-metal stent implantation.

Case report

An 80-year-old male with a history of arterial hypertension and dyslipidemia was admitted to our institution presenting with ST-segment elevation inferior acute myocardial infarction. Coronary angiography revealed total occlusion with thrombus in the proximal right coronary artery (RCA) (Fig. 1A). Primary percutaneous coronary intervention of

* Corresponding author.

Tel.: +81 0798 45 6553; fax: +81 0798 45 6551.

E-mail address: kfujii@hyo-med.ac.jp (K. Fujii).

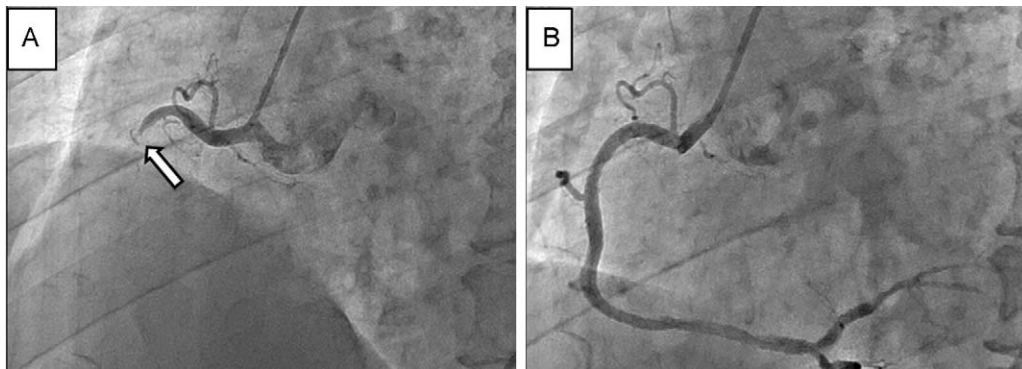


Figure 1 (A) Angiography of the right coronary artery showing the total occlusion at the proximal segment. (B) Final result after stenting.

the proximal RCA was performed. The lesion was predilated with a 3.0 mm × 15 mm balloon and a 3.5 mm × 30 mm bare-metal stent (Driver stent, Medtronic CardioVascular, Santa Rosa, CA, USA) was deployed at 14 atm with a good

angiographic result (Fig. 1B). IVUS and OCT examinations were not attempted after stent implantation. The patient was discharged without in-hospital events and remained asymptomatic on dual antiplatelet therapy. One month later,

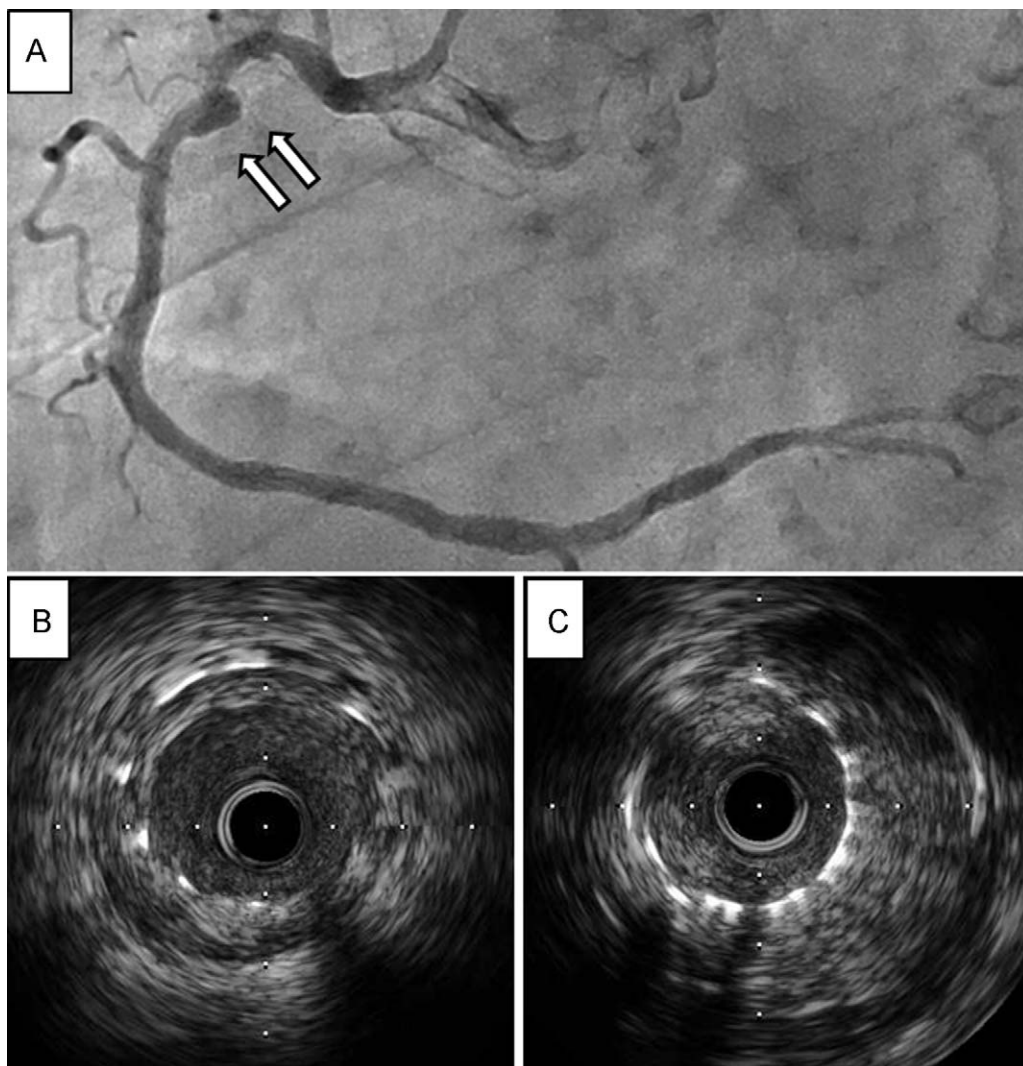


Figure 2 (A) Seven-month follow-up coronary angiography showing coronary artery aneurysm formation at previously stented site (arrows). (B) Intravascular ultrasound appearance of complete strut apposition and neointimal coverage at the distal part of the stent. (C) Intravascular ultrasound imaging of coronary artery aneurysm formation.

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