

IMAGES IN INTERVENTION

# Extraluminal Migration of a Drug-Eluting Stent Into a Thrombosed Coronary Aneurysm With Preserved Antegrade Flow in the Right Coronary Artery



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A 64-year-old diabetic, hypertensive, hyperlipidemic woman presented with features of heart failure with ejection fraction of 40% and mild mitral regurgitation. Two years before she experienced inferior and right ventricular ST-segment elevation myocardial infarction and underwent primary percutaneous coronary intervention for a thrombotic occlusion of the proximal right coronary artery (RCA) with a drug-eluting stent (DES). After pre-dilatation, a 4 × 18 mm everolimus DES (Abbott Vascular, Santa Clara, California) was successfully deployed at 12 atm and was post-dilated with a 4.0 × 15 mm noncompliant balloon at 16 atm (Figures 1A and 1B, Online Videos 1 and 2). Index coronary angiography showed that the stent was displaced outside the lumen of the RCA, which showed preserved antegrade flow (Figures 2A and 2B, Online Videos 3 and 4). Computed tomography coronary angiography confirmed the location of migrated, malaligned stent into an encapsulated, giant (25 × 27 mm) coronary aneurysm, which was thrombosed

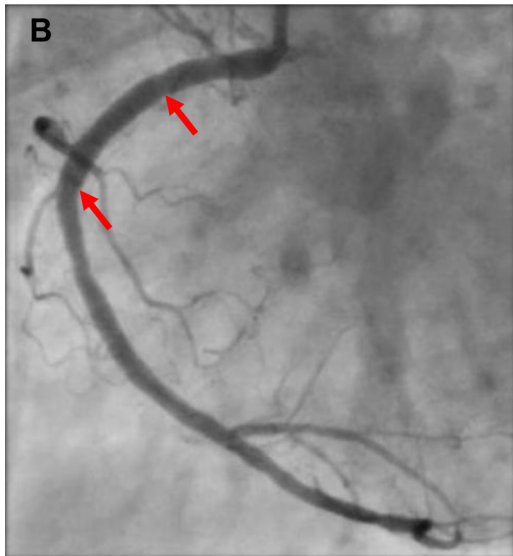
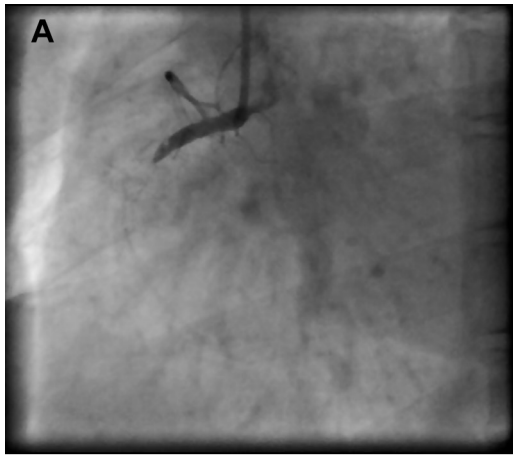
(Figures 3A and 3B). There was no evidence of pericardial effusion.

Our case illustrates complete extraluminal migration of a DES from the lumen of the RCA. This would have been possible due to development of a type I coronary aneurysm early after stent deployment as a result of arterial injury (1). As the base of the coronary aneurysm was wider than the length of the DES, a freely floating stent before endothelialization might have been displaced into the giant coronary aneurysm, which was thrombosed over a period of time. Subsequently the RCA was spontaneously recanalized and endothelialized or might have maintained antegrade flow due to collateral channels. However, the stent remained excluded from the coronary lumen.

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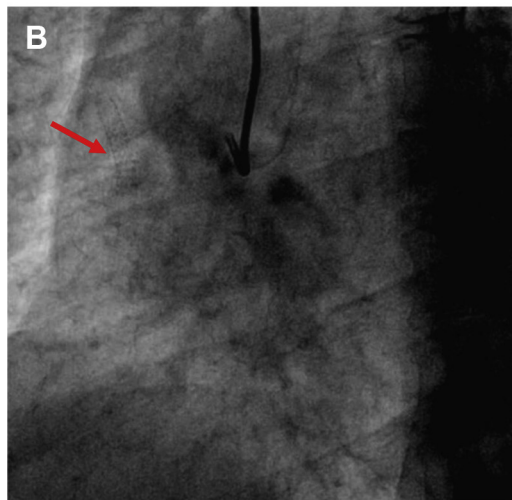
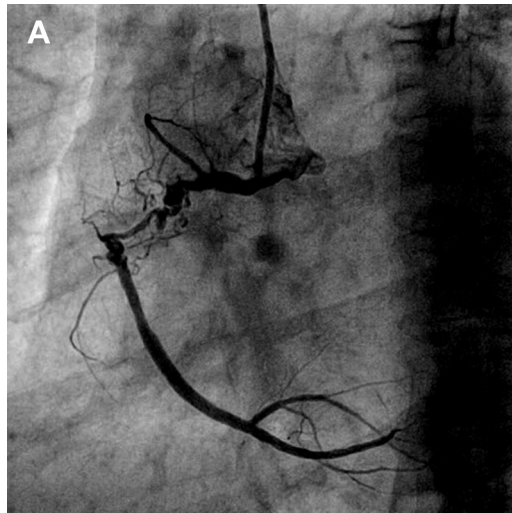
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**FIGURE 1** Primary Percutaneous Coronary Intervention of the Right Coronary Artery (2 Years Before)

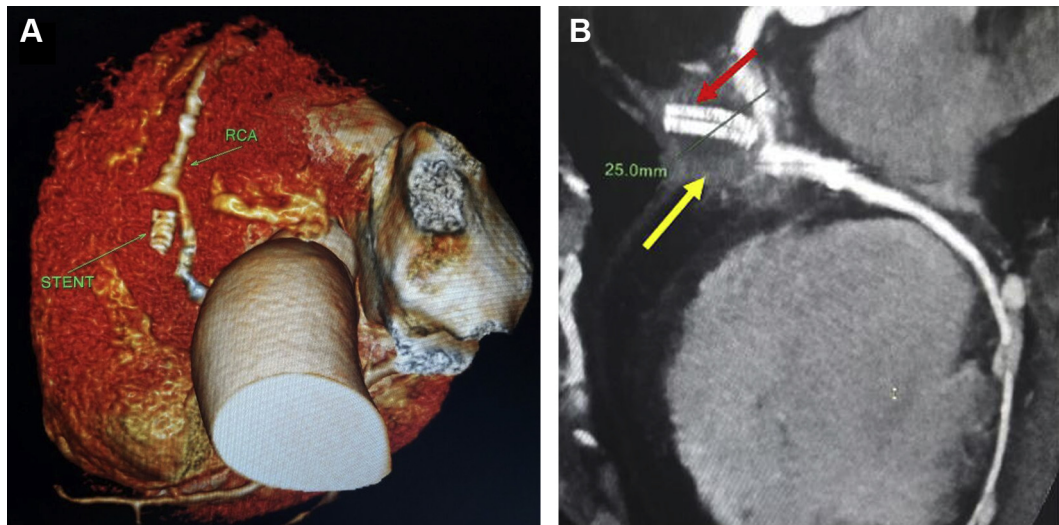


(A) Angiography showing thrombotic occlusion of the right coronary artery ([Online Video 1](#)). (B) Final angiography after stent implantation with **red arrows** showing the length of the deployed drug-eluting stent ([Online Video 2](#)).

**FIGURE 2** Baseline Angiography at Index Admission



(A) Preserved antegrade flow in the right coronary artery without stent in the lumen ([Online Video 3](#)). (B) **Red arrow** showing extraluminal migration of the stent in the cinefluoroscopic picture ([Online Video 4](#)).

**FIGURE 3** Computed Tomography Coronary Angiography

(A) Green arrow showing extraluminal displacement of the stent. (B) Red arrow showing extraluminal stent. Yellow arrow showing malaligned stent contained in a giant (25 × 27 mm), thrombosed coronary aneurysm. RCA = right coronary artery.

**REFERENCE**

1. Aoki J, Kirtane A, Leon MB, Dangas G. Coronary artery aneurysms after drug eluting stent implantation. *J Am Coll Cardiol Intv* 2008;1:14-21.

**KEY WORDS** coronary aneurysm, drug-eluting stent(s), extraluminal stent migration, spontaneous recanalization

**APPENDIX** For supplemental videos and their legends, please see the online version of this article.