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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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).
REFERENCE


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