

IMAGES IN INTERVENTION

Accidental Extraction of a Stent Implanted 3 Years Earlier by a Dislodged Stent

A Rare Complication of Percutaneous Coronary Intervention



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A 60-year-old man presented with angina 3 years after deployment of a 3.0/36-mm sirolimus-eluting stent (SES) (Excel, JW Medical Systems, Weihai, China) crossing over from the distal left main coronary artery (LM) to mid-left anterior descending coronary artery (LAD). He had an acute inferior myocardial infarction 4.5 years earlier, and 4 SESs were deployed to revascularize an occluded right coronary artery. An implantable cardioverter-defibrillator was later implanted for ventricular tachycardia. Current coronary angiography (CAG) showed a 70% stenosis in the left circumflex coronary artery (LCx), whereas no in-stent restenosis was observed in the previously placed stent (Figure 1A).

After pre-dilation with a 2.0 × 15-mm balloon, multiple attempts to deliver a 2.5/38-mm SES (Helios, Kimley Medical, Shenzhen, China) through the previous LM stent to the LCx lesion were made but failed. While retrieving the stent, it caught on the LM stent and partly detached from the balloon (Figure 1B). A 2.5 × 15-mm balloon was inflated in the guide catheter to squeeze the stent before it was pulled out with difficulty with another deformed stent (Figure 1D) attached with intima. CAG showed the disappearance of the LM-LAD stent (Figure 1C) and a mid-LAD occlu-

sion (Figures 1E to 1F). After dilation with a 2.0 × 15-mm balloon, intravenous ultrasound demonstrated dissection at the mid-LAD and intimal injury at the proximal LAD (Figures 1F to 1I). Finally, a 2.5/18-mm SES (Firebird 2, MicroPort Medical, Shanghai, China) was implanted at the mid-LAD with good CAG results (Figure 1J). The patient was symptom free at 6-month follow-up.

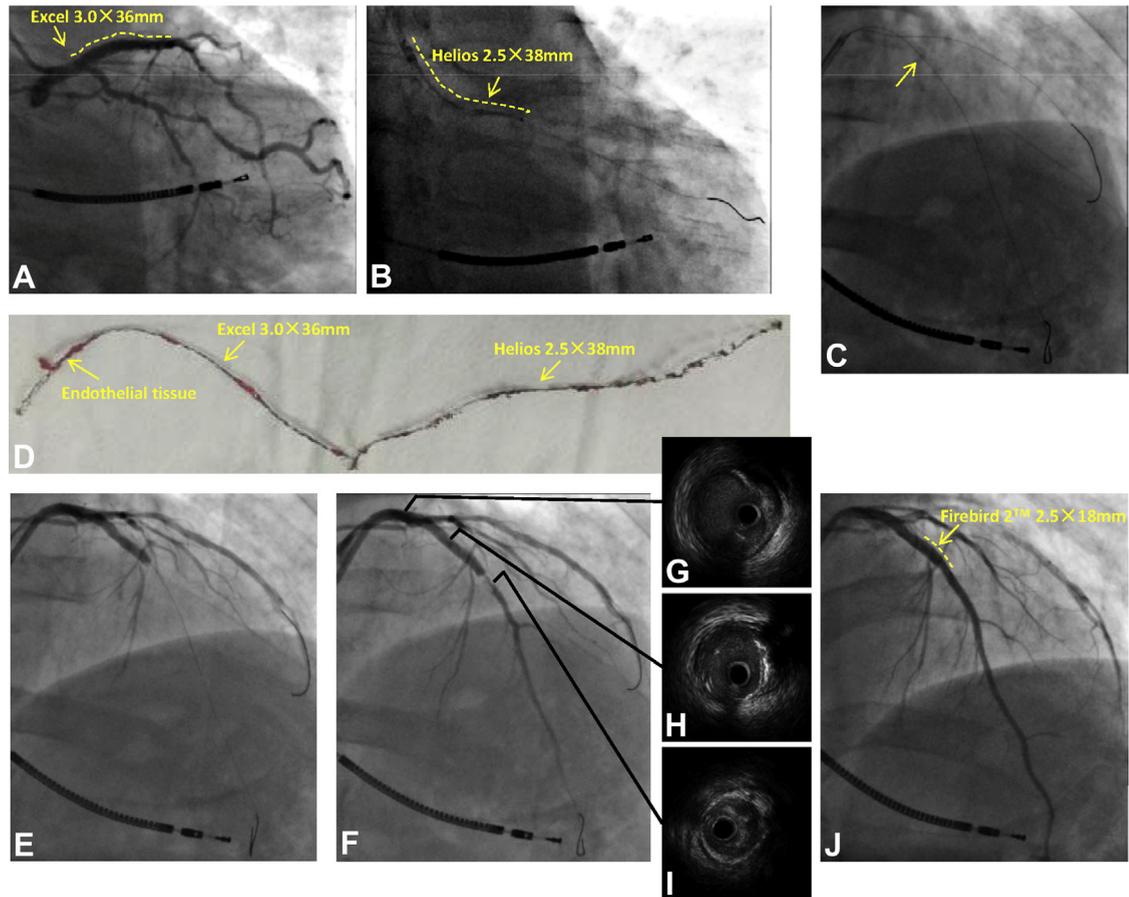
To our knowledge, this case is the fourth reported case of stent extraction by a dislodged stent (1-3); however, the extracted stent was in place for 3 years, the longest endothelialization period. Fortunately, only intimal injury was observed at the distal LM and proximal LAD, and 1 stent implanted at the dissection site perfectly achieved revascularization. This report suggests that caution is needed when passing a stent through old stent struts as the previous stent could still be extracted after long-term endothelialization.

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FIGURE 1 Images of the Left Coronary Angiogram During a Percutaneous Coronary Intervention, the Extracted Stent, and Intravascular Ultrasound of the LAD After Stent Extraction



(A) Coronary angiography (CAG) demonstrated no in-stent restenosis in the left main coronary artery (LM) to mid-left anterior descending coronary artery (LAD) stent (arrow), but diffuse stenosis at the left circumflex artery. (B) The stent is dislodged at the ostium of LM (arrow). (C) The LM-LAD stent is invisible after the dislodged stent is pulled out (arrow). (D) Morphologies of the distorted stent and dislodged stent (Helios) caught in the proximal part of a scattered-shaped previously implanted LM-LAD stent (Excel) with endothelial tissue attached to it. (E) CAG indicated LAD occlusion immediately after the stent was extracted. (F) Residual stenosis and dissection remained (arrow) after dilation. (G-I) Intravascular ultrasound demonstrated intimal injury at the proximal LAD (G and H) dissection at the mid-LAD (I), as indicated (J). Final CAG results after implantation of a stent at the mid-LAD.

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