Wire Entanglement to Retrieve Dislodged Stent From the Proximal Right Coronary Artery

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A 70-year-old woman who was a known diabetic and had hypertension presented with non-ST-elevation myocardial infarction. A coronary angiogram showed a significant lesion in the mid-portion of right coronary artery (RCA) followed by distal cut-off (Figure A). Percutaneous coronary intervention was planned for the RCA.

Predilation of the lesion was done using a 2.5 x 10-mm semi-compliant balloon. A 2.75 x 38-mm drug-eluting stent was dislodged in the proximal portion of the RCA during the attempts to deliver it to the mid-RCA (Figure B). We tried to pass a wire through the stent and a small balloon (2 x 8 mm) to drag the stent to guide after balloon inflation, however the balloon failed to pass through the stent (Figure C). A coronary snare was not available at that time in our lab.

We decided to retrieve the dislodged stent with the wire entanglement technique. Three more wires were passed distal to the stent; the first 2 went easily and the third wire was negotiated distal to the stent after encountering resistance in the stent (Figure D and E). A single torquer was placed across all 4 wires. While continuously rotating the torquer in a single direction and confirming the entrapment of the stent, the wires were gradually pulled with a continuous unidirectional simultaneous rotation (Video 1). The rotation was continued in 1 direction until the stent was completely removed from the guide catheter (Video 2). Following retrieval of the dislodged stent, the RCA was rewired and cutting balloon dilation was performed. The stent was placed with a guide extension catheter. The stent was then post-dilated, and a good final result was achieved (Figure F).

Stent dislodgement is not an uncommon complication in interventional cardiology. Inadequate lesion preparation, calcified lesions, tortuous vessels, and guide-induced degloving of the stent are common reasons for stent dislodgement. Wire entanglement is a very useful technique to retrieve a dislodged stent from the proximal segment of the coronary artery when a snare is not available or when a snare is not negotiable due to its bulky profile. One of the wires must pass through the struts of the stent for this technique to be successful. The torquer should be rotated continuously in the same direction until the stent is retrieved from the sheath. ■

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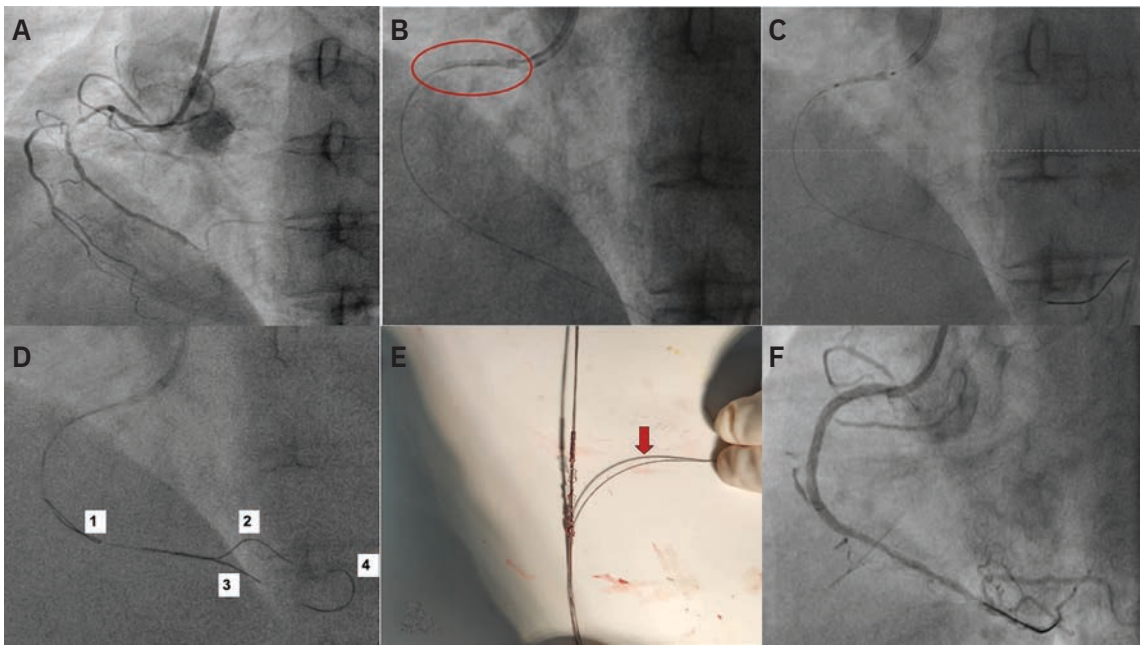
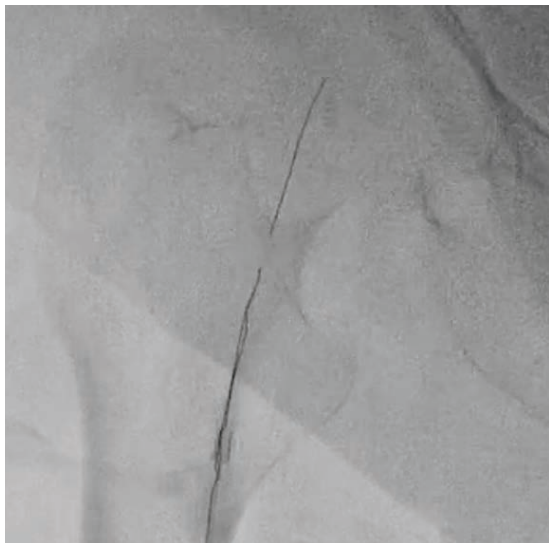


Figure. (A) Coronary angiogram in left anterior oblique view showing diffuse lesion causing 90% stenosis in the mid-right coronary artery (RCA), followed by distal cut off. (B) Fluoroscopy image showing dislodged coronary stent in the proximal portion of RCA (circle) just distal to the guiding catheter. (C) A 2 x 10-mm balloon failed to cross the stent due to crumpling of the dislodged stent because of the guide-induced trauma. (D) Multiple wires were passed distal to the stent (indicated by numbers). (E) Photograph showing the retrieved stent; 3 wires have passed through the lumen of the stent and fourth wire (arrow) has passed through the struts of the stent. (F) Final angiographic result after successful stent deployment.

Video 1. The dislodged stent (arrow) was retrieved by wire entanglement technique. All 4 wires were passed through the common torquer and the torquer was continuously rotated in 1 direction. The wires were pulled out with continuous torquer rotation until the stent was completely removed from the guide catheter.



Video 2. The dislodged stent was removed from the guide catheter with continuous unidirectional rotation of all 4 wires with a common torquer.

Videos 1 and 2 are available online with the article.

Scan the QR code:

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Disclosures: *The authors report no financial relationships or conflicts of interest regarding the content herein.*

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