

IMAGES IN INTERVENTION

Knuckle Wire and Stingray Balloon for Recrossing a Coronary Dissection After Loss of Guidewire Position

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A 73-year-old man presented with a non-ST-segment elevation myocardial infarction. Coronary angiography revealed severe lesions in the mid and proximal right coronary artery (RCA) (Fig. 1A).

After pre-dilation, a dissection was noted at the mid RCA lesion (Fig. 1B). During attempts to deliver a 3.0 × 38-mm stent, guide and wire position were lost. Blood flow past the mid RCA

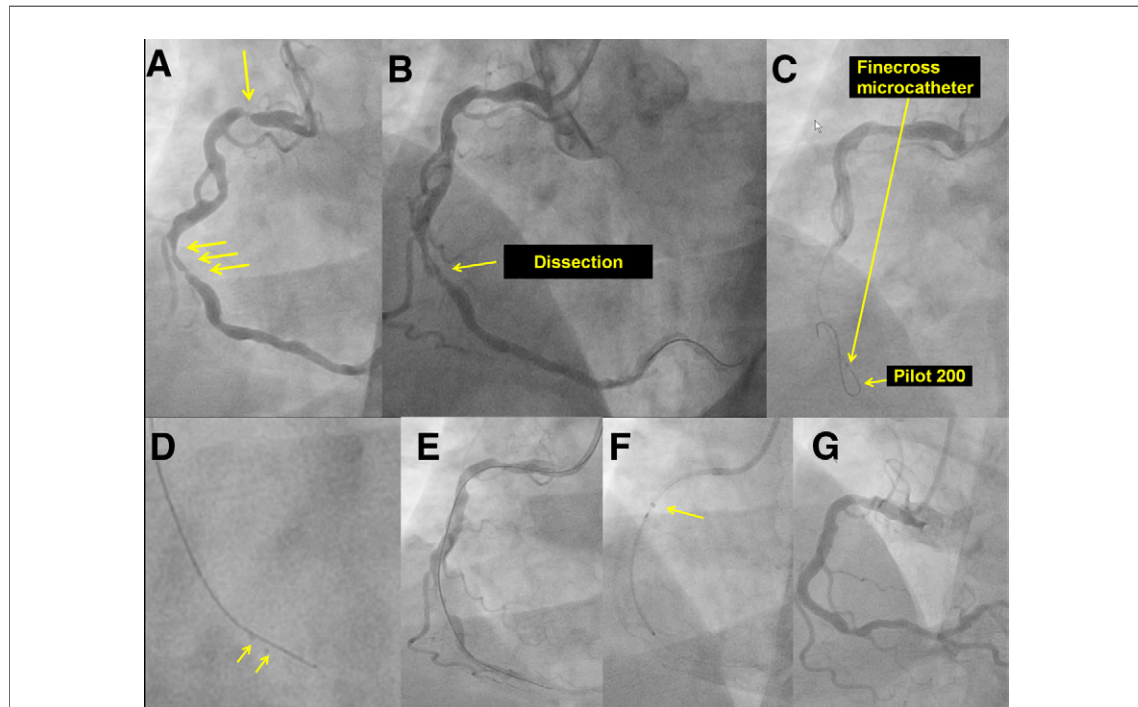


Figure 1. Use of Knuckle Wire and Stingray Balloon for Recrossing Coronary Dissection After Loss of Guidewire Position

Coronary angiography demonstrating a tortuous right coronary artery with proximal (arrow, A) and mid (multiple arrows, A) lesions. Mid right coronary artery dissection after balloon pre-dilation (arrow, B). Guidewire position and antegrade flow were lost after an unsuccessful attempt for stent delivery. After failure to advance a guidewire through the dissected segment, a knuckle was formed with a Pilot 200 guidewire (Abbott Vascular, Santa Clara, California) (arrow, C) and advanced around the dissected segment. With a stingray balloon (Bridgepoint Medical, Minneapolis, Minnesota) (arrows, D) and guidewire, distal true lumen re-entry was achieved (D and E). A Guideliner catheter (Vascular Solutions, Minneapolis, Minnesota) (arrow, F) was then used to successfully deliver 2 stents with an excellent final angiographic result (G).

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lesion ceased, and the patient developed chest pain and ST-segment elevations. The dissected segment could not be rewired, despite the use of several guidewires (Fielder XT, Confianza Pro 12, Pilot 200, Abbott Vascular, Santa Clara, California) through a Finecross catheter (Terumo, Somerset, New Jersey) or through a Venture catheter (St. Jude, Minneapolis, Minnesota). We advanced the Pilot 200 guidewire (Abbott Vascular) to form a knuckle (Fig. 1C), which was advanced subintimally through the dissected lesion. A Stingray balloon and wire (Bridgepoint Medical, Minneapolis, Minnesota) were subsequently used to re-enter into the distal true lumen (Fig. 1D), as confirmed angiographically (Fig. 1E). With a Guideliner catheter (Fig. 1F) 3.0 × 38-mm and 3.5 × 23-mm stents were delivered and successfully deployed with an excellent final angiographic result (Fig. 1G). The patient had an uneventful recovery.

Subintimal dissection/re-entry crossing strategies are frequently used to facilitate crossing of chronic total occlusions

(1,2). Our report demonstrates that the same techniques can be used to treat acute complications of percutaneous coronary interventions, such as crossing of a dissected coronary segment.

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