

Stent-assisted coil embolization of large coronary artery aneurysm under intravascular ultrasound guidance

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A 57-year-old male who with a history of coronary artery bypass surgery two years prior presented with chest pain. Angiography revealed totally occluded distal left internal mammary artery graft to the left anterior descending artery (LAD), patent vein grafting to the right coronary artery, and a 90% stenosis of proximal LAD with a 6 × 9 mm sized coronary aneurysm (CAA) (Fig. 1A). After a heart team discussion, angioplasty with drug-eluting stents and stent-assisted coil embolization were planned to prevent coil dislodgement, as intravascular ultrasound (IVUS) demonstrated a wide-necked CAA (Fig. 1B). A microcatheter (Rebar® 2.4F/153cm, Medtronic) was advanced inside the CAA over a 0.014" wire (VersaTurn, Abott) after careful wiring into the CAA (Fig. 1C). Resolute onyx 3.5 × 26 mm (Medtronic) was then placed over proximal LAD, deploying it not above

nominal pressure in order to avoid damage of the microcatheter, now jailed under the stent struts (Fig. 1D) and two detachable coils (Concerto 5 mm × 15 cm, 4 mm × 10 cm, Medtronic) were released inside the CAA through the microcatheter. After retrieval of the microcatheter, high-pressure stent postdilation was performed. A postprocedural IVUS and final angiography confirmed complete embolization of the CAA (Fig. 1E–F, Suppl. Video 1). The patient was discharged without complications the following day and 12-month angiographic follow-up results remained favorable (Suppl. Video 1). CAAs are unusual anomalies with undefined standards of treatment. The stent-assisted coil embolization, as described, could be a beneficial option for managing concomitant coronary artery disease and CAA.

Conflict of interest: None declared.

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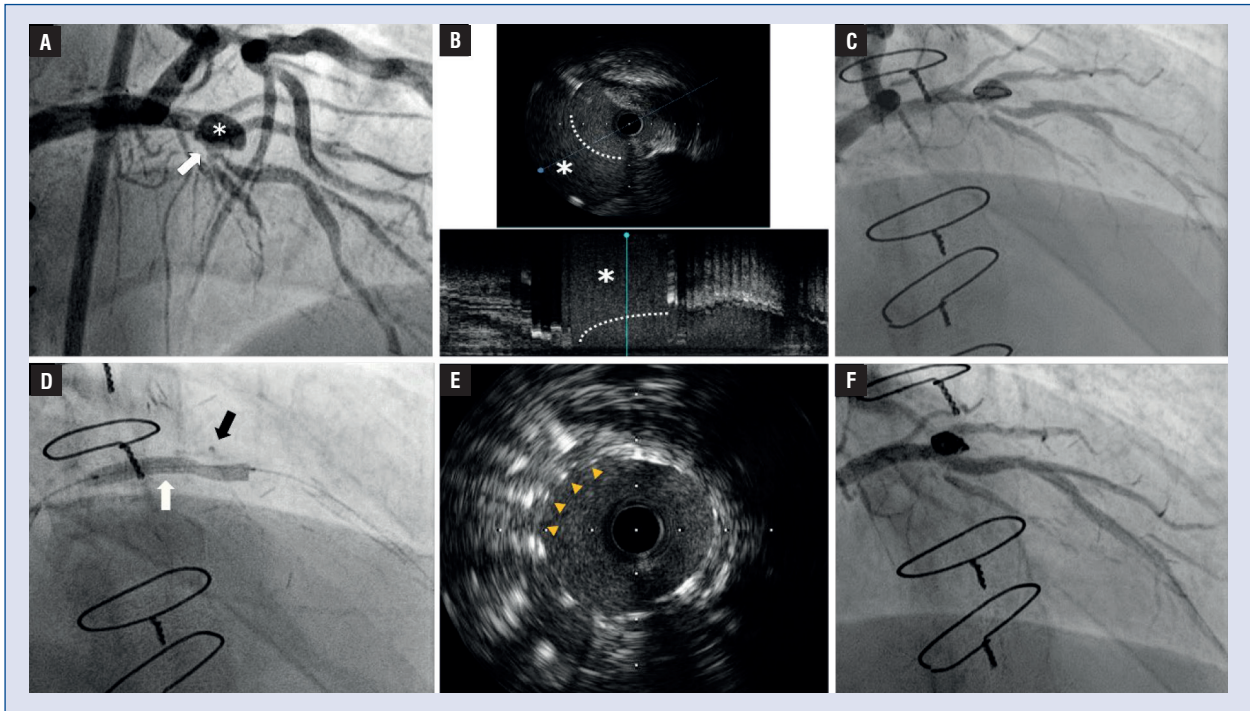


Figure 1. A. Baseline coronary angiogram showing severe stenosis of the proximal LAD (*white arrow*) with a large coronary artery aneurysm (CAA) (*asterisk*); B. Intravascular ultrasound (IVUS) showing CAA (*asterisk*) with wide-neck (*white dotted line*); C. Careful wiring into the CAA; D. Stenting at proximal LAD (*white arrow*) with the microcatheter (*black arrow*) jailed under the stent strut; E. Post-IVUS showed well-apposed stent struts (*yellow arrowheads*) and multiple hyperechogenic coils packed in the CAA outside the stent struts; F. Final angiography showing complete embolization of the CAA.