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Effective thrombus extraction strategies in acute saphenous vein graft intervention

A 63-year-old man presented with unstable angina with dynamic lateral ST depression. Fifteen years previously he underwent coronary bypass surgery. Coronary angiography demonstrated subtotal occlusion of the ostium of the saphenous vein graft (SVG) to the circumflex marginal branch. Passage of a coronary wire and subsequent low pressure dilatation with a 2.0 mm balloon allowed deployment of a distal protection device (Filter Wire EX, Boston Scientific).

Further proximal dilatation with a 2.5 mm balloon revealed an angiographically well preserved graft with a heavy clot burden proximally and mid graft (panel A). An Export aspiration catheter (Medtronic) was used to extract a large amount of thrombus (panel C). A 4.5 × 18 mm Multilink Ultra stent was deployed to achieve a good result (panel B) with TIMI grade 3 flow and myocardial blush grade 3. Retrieval of the Filter Wire EX revealed significant debris (panel D).

Large thrombus burden in saphenous vein grafts predicts major adverse cardiac events (MACE) and mandates the use of embolic protection. The extraction of thrombus with the Export catheter avoided the need for further intervention in the body of the SVG. As demonstrated by the distal protection device debris, aspiration alone would have been insufficient to prevent major distal embolisation. The complementary nature of two strategies to manage large thrombus burden in SVG is illustrated.

(A) Thrombus in graft (white arrows); Filter Wire EX in-situ (black arrow). (B) Final result.

(C) Thrombus core retrieved by aspiration. (D) Filter Wire EX with trapped embolic debris.

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