Life-saving percutaneous coronary intervention in acute occlusion of two saphenous vein grafts

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Introduction: ST elevation myocardial infarction (STEMI) in patients after coronary bypass artery graft (CABG) surgery is evenly caused by acute saphenous vein graft (SVG) occlusion (~50%) or native vessel occlusion (~50%).^{1,2} Acute SVG occlusion is infrequent event accounting for 2-3% of primary percutaneous coronary interventions (PCI). Most SVG occlusion related STEMI occurred in degenerative grafts, usually — 10 years after the index CABG surgery.

Case: We present a case of successful urgent PCI of acutely occluded venous grafts. Our patient is a 72 years old male. He suffered from inferoapical STEMI with primary PCI on OM1. A TIMI 3 flow in infarcted artery was achieved. Due to extensive coronary disease elective surgical revascularization was planned. The patient was operated 6 months after STEMI. LIMA was deemed unsuitable for revascularization and three saphena magna vein grafts were implanted (towards LAD, OM1 and PDA/RCA) using "off pump" technique. Three hours after the operation ECG changes suggested development of STEMI in anterolateral region with rapid haemodynamic deterioration. He was immediately transferred to a catheterization laboratory. Control angiogram showed acutely occluded venous grafts to LAD and PDA (RCA). We continued with urgent PCI on the grafts. Thrombotic occlusion of LAD graft was successfully passed with a coronary wire and after thromboaspiration several balloon dilatations were performed. After cannulation of the PDA graft ostium coronary wire was positioned distally.

Anastomosis and distal PDA were dilated. TIMI 3 flow was achieved in both arteries and we ended the procedure without stent implantation. Further hospital course was uneventful with preserved ejection fraction. Patient is in CCS 1 class in a 9 month clinical follow-up.

Conclusion: The outcome of patients who experienced STEMI due to acute SVG occlusion is significantly worse compared to native vessel related myocardial infarctions³. The outcome of patients who experienced STEMI due to acute SVG occlusion is significantly worse compared to native vessel related myocardial infarctions. We achieved good immediate angiographic result but the patient remains at high risk for recurrent event.

KEYWORDS: coronary arteries bypass graft, percutaneous coronary intervention, secondary revascularisation, saphenous vein graft occlusion.

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