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Short title:
CABG in STEMI after failed PCI with broken angioplasty wire entrapment.

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Percutaneous coronary interventions (PCI) have an established position in the management of patients presenting with acute coronary syndromes [1]. Rare, but serious adverse events may be related to stents / wires distortions [2,3].

We present a case of a 67-year-old male who was admitted to a hospital with anterior wall ST-elevation myocardial infarction. Urgent coronary catheterization revealed left anterior descending artery (LAD) occlusion close to diagonal branch origin (Fig 1A). Middle segments of circumflex (CX) and right coronary (RCA) arteries were also significantly stenotic (Fig. 1B). The heart team decided to perform emergent LAD angioplasty.

The bolus of 7.9 ml of INN-eptifibatide was administrated and followed by continuous infusion with 14 ml/h rate. The drug-eluting sent (Xience 3.0 x 28 mm) was implanted into LAD. After stent implantation, a part of the wire was entrapped in the coronary artery. The metallic coil covering the core of the angioplasty wire was left in proximal part of LAD and protruded into the aortic root.

Patient was referred for emergency surgery. The procedure was performed through median sternotomy in cardiopulmonary bypass (CPB). After transverse aortotomy, the aortic root lumen was inspected and metallic coil was localized (Fig 1C). As the foreign body of 7 cm in length was irremovable, it was transected and left in the proximal portion of the left main coronary artery (LM) (Fig. 1D). The operators decided to perform revascularization of LAD, CX and RCA. The saphenous vein bypass grafts (SVBG) were performed into CX and RCA and left internal mammary (LIMA) was anastomosed into LAD with continuous 7-0 monofilament suture. The estimated blood flow were 7 mL/min with pulsation index (PI) of 3.4 in LIMA-to-LAD 39 mL/min with PI 1.3 in SVBG-to-CX and 43 mL/min with PI 1.1 in SVBG-to-RCA grafts, respectively.
Surgical approach allows to achieve complete revascularization in acute coronary syndromes. Postoperative bypass blood flow measurements provide the significant information about quality of performed anastomoses.
References:


Figure 1.

A. Angiography of acute left descending artery occlusion with metallic coil of the guidewire left in the proximal part.

B. Right coronary artery angiography.

C. Intraoperative view into aortic root with metallic coil.

D. 7 cm long metallic coil removed from the aortic lumen.