

Dual guiding catheter approach for the treatment of massive coronary artery perforation

Równoczesne zastosowanie dwóch cewników prowadzących w leczeniu masywnej perforacji tętnicy wieńcowej

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A dual catheter approach is routinely used during percutaneous coronary intervention of coronary chronic total occlusion. However, this simple technique could be used during life-threatening complications in the cath lab. We present a case in which a dual guiding catheter approach was the only possible technique to treat coronary artery perforation leading to patient haemodynamic collapse. A 64-year-old woman was admitted to our hospital because of severe chest pain with electrocardiogram pattern of inferior ST segment elevation myocardial infarction. Immediately performed coronary angiography showed the culprit lesion in the mid portion of the circumflex artery (CX) with TIMI 2 flow (Fig. 1). An Amplatz left 2 (AL2) 6 F Launcher guiding catheter was inserted in the left main (LM) and a coronary wire was positioned in the distal CX. The culprit lesion was directly stented with a 4.0 × 15 mm bare metal stent at 12 atm. Control angiography revealed coronary artery perforation type III at the site of the stent with massive contrast extravasation (Fig. 2). Immediately, a 4.0 × 15 mm balloon at 4 atm was inflated inside the stent and protamine sulphate was given to reverse anticoagulation. After prolonged 2 × 15 min balloon inflation, perforation was still present (Fig. 3). Control echocardiography (ECHO) at this stage revealed no pericardial effusion. Based on normal ECHO findings, the operator decided to remove the balloon from CX and implant a 3.5 × 19 mm stent graft (Jostent, GraftMaster). According to the manufacturer, a minimum 6 F guiding catheter is recommended for stent graft placement, so the operator anticipated no problems with stent graft crossing. Unfortunately, it was impossible to insert the stent graft through AL2 guiding catheter. Once again, the balloon was inserted and inflated in the CX. While the balloon was advancing, the patient lost consciousness and systolic pressure dropped from 120 to 60 mm Hg. High rate infusion of fluids and dopamine were given. ECHO confirmed tamponade with 15 mm free space behind right ventricle so the pig-tail catheter was inserted into the pericardium and 240 mL of blood was aspirated. A second 7 F guiding catheter was inserted in the LM from the contralateral femoral artery and a second wire was advanced to the distal portion of the CX. Through a 7 F guiding catheter the stent graft was easily placed close to the LM (Fig. 4). The balloon was removed from the CX and the stent graft was implanted at 18 atm inside the stent. A final angiogram showed a very good angiographic result with no signs of vessel perforation or contrast leakage (Fig. 5). Further in-hospital course was uneventful, and the patient was discharged on the 5th day.



Figure 1. Culprit lesion in circumflex artery



Figure 2. Perforation with massive contrast extravasation

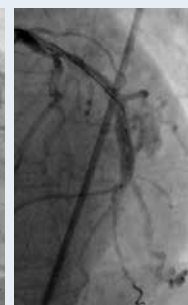


Figure 3. Perforation still present after prolonged balloon inflation

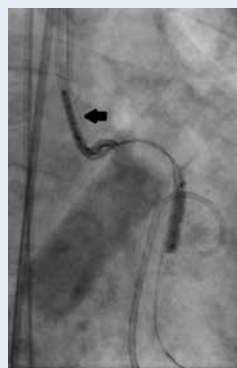


Figure 4. Stent graft in distal part of 7 F guiding catheter (arrow)



Figure 5. Final result

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