Case Report

Kinking of diagnostic catheter in radial artery during radial cardiac catheterization with superimposed arterial spasm

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A R T I C L E   I N F O

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Case report: A 76-year-old female presented with a history of intermittent chest pain at rest during the previous two days. She had no significant past medical history and was on no medication. Chest X-ray was unremarkable, but her 12-lead electrocardiogram revealed lateral ST depressions of 2 mm.

Coronary angiography was performed via her right radial artery. The radial artery puncture was straightforward, and a TIG 5F catheter was used to attempt left coronary angiography. Unfortunately, while struggling to pass through the severe tortuosity of the brachiocephalic artery, the catheter made a loop high in the radial artery close to the brachial bifurcation. Despite gentle attempts to rotate the catheter to undo the kinking, the catheter became stuck in the artery due to spasm, and even gentle manipulation was very painful for the patient. A cocktail of nitroglycerin and verapamil was repeatedly administered intra-arterially, and this relieved the spasm. We were unable to cross through the kinked portion, even with a coronary guide wire. An attempt was made to snare the tip of the catheter with the coronary loop via the right femoral artery and straighten the catheter. This was unsuccessful due to the severe tortuosity of the brachiocephalic artery. We considered vascular surgery to remove the catheter. Prior to going to the surgical department, however, we decided to make one last attempt to straighten the catheter. We cut off the end of the catheter, removed the 6F 14 cm long sheath from the radial artery, and put a new long sheath over the tip of the stuck catheter. In this way, we were able to straighten the loop, and the catheter was easily removed from the radial artery (Fig. 1). Coronary angiography

Fig. 1 – Schema of the loop of the diagnostic catheter and procedures for its removal.

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as well as PCI of the CFX was made via the right femoral approach. The patient had no long-term sequelae in the right forearm.

Kinking of the diagnostic catheter with superimposed arterial spasm can be an unpleasant complication during cardiac catheterization via the transradial approach. Nitroglycerin and verapamil were used as spasmylytics for the radial artery in this case, and an atypical technique for straightening the stuck, kinked catheter enabled us to preclude urgent surgical intervention.