CASE REPORT

# An unusual cause of abrupt vessel closure

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A 60 year old woman presented with chest pain. An ECG showed ST depression across the anterior leads and lateral T wave inversion and angiography showed a significant proximal circumflex lesion. After percutaneous intervention to the circumflex artery she had a cardiac arrest and died. Postmortem examination found a stent blocked with a combination of thrombus and a tangle of translucent material. Embolic coronary artery occlusion is well described but this is the first report of embolisation of material arising from the lining of the guiding catheter as the cause.

A 60 year old woman presented to the emergency room with a four week history of chest pain culminating in a severe episode at rest. She smoked 10–15 cigarettes a day but had no other cardiac risk factors. Clinical examination was normal but resting ECG showed ST depression across the anterior leads and lateral T wave inversion. Troponin T was positive at 0.14 ng/ml and creatine kinase peaked at 322 U/l. She was treated with aspirin, heparin, and β blockade.

Angiography was performed after a positive exercise test at low workload. This showed a diffuse moderate left anterior descending coronary artery (LAD), a significant proximal circumflex lesion, which was felt to be the culprit lesion, and an occluded right coronary, which was supplied by bridging collaterals (fig 1). Left ventricular function was preserved with an area of inferior hypokinesis.

A decision to carry out percutaneous intervention to the circumflex was made and this was carried out two days later. A 3.5 French extra back up guide catheter was passed without difficulty over a 0.35 mm J wire and the left main coronary artery was intubated with ease. After the initial injection the patient developed chest pain and associated hypotension and the LAD was found to be occluded (fig 2).

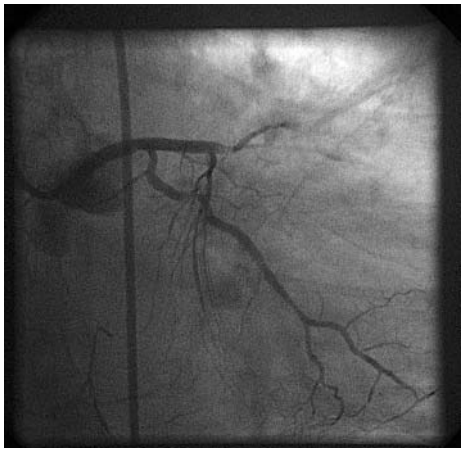

**Figure 2** First injection during percutaneous intervention.

The LAD lesion was successfully crossed with a 0.014 inch Wisdom wire and predilated with a Medtronic X1S 2.5 mm balloon. After predilatation flow was suboptimal and two Medtronic S660 stents were implanted, a 3.0 × 18 mm initially, followed by a 3.0 × 12 mm. The final result showed TIMI (thrombolysis in myocardial infarction) 3 flow in the LAD with loss of a septal and the first diagonal branches.

This resulted in significant clinical improvement with resolution of chest pain. As the patient was clinically stable we proceeded to the intervention on the circumflex. The lesion was pre-dilated with the 2.5 × 20 mm X1S balloon catheter (Medtronic) and two Medtronic S660 2.5 × 12 mm stents were deployed. The angiographic result was satisfactory with some distal spasm (fig 3). Creatine kinase rose after the procedure to 1682 U/l, but the patient was stable and improved over the following couple of days.

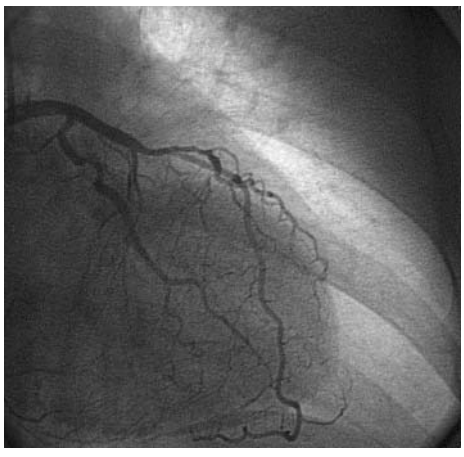

**Figure 1** Initial diagnostic image.

**Figure 3** Final angiographic result.


**Figure 4** Blockage of the stent with thrombus and tangled translucent material.

On the third day after the procedure the patient had a cardiac arrest and resuscitation attempts were unsuccessful. A necropsy the following day showed an occluded LAD and an anterior infarct. The stent was blocked with a combination of thrombus and a tangle of translucent material (fig 4).

The manufacturer analysed the material by high performance liquid chromatography and found that it was polytetrafluoroethylene, which was consistent with the inner lining of the guide catheter. An electron micrograph showed markings on the material, which the manufacturer agreed were as a result of the process adhering the inner lining to the body of the catheter (fig 5).

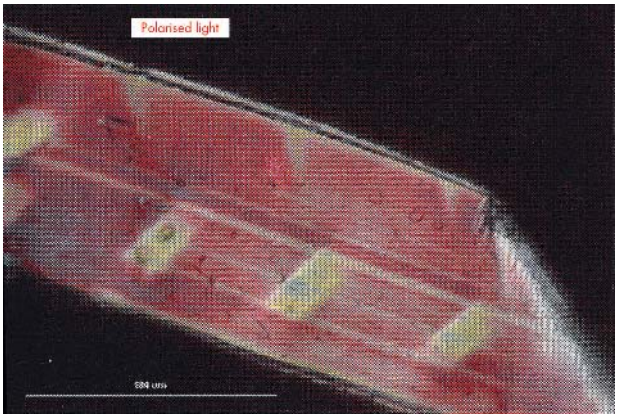


**Figure 5** Electron micrograph showing markings on the blocking material.

Embolic coronary artery occlusion is well described but to our knowledge this is the first case reported that was caused by embolisation of material arising from the lining of the guiding catheter.

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