

Rapid widening of the mediastinum after coronary angiography

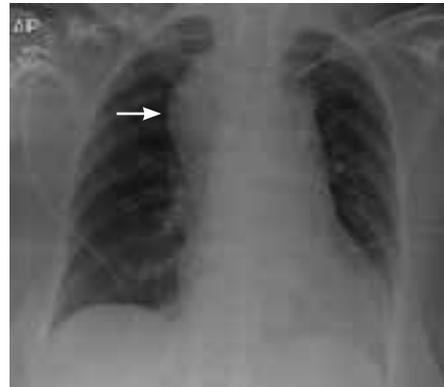
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An 86-year-old woman was evaluated for increasing anginal symptoms for which antiplatelet drugs were started besides her coumarin derivative, which she took for paroxysmal atrial fibrillation. A coronary angiogram showed a left main pinpoint stenosis.

In the hour following her coronary angiogram, her neck circumference increased rapidly. We saw a pale woman with cold extremities in respiratory distress sitting upright with an inspiratory stridor for which she was intubated. The initial diagnosis of a contrast media reaction was clinically deemed unlikely but refuted more definitely on the chest X-ray (*figure 1*) taken after intubation.

Figure 1. Widening of the mediastinum



WHAT IS YOUR DIAGNOSIS?

See page 419 for the answer to this photo quiz.

ANSWER TO PHOTO QUIZ (PAGE 415)

RAPID WIDENING OF THE MEDIASTINUM AFTER CORONARY ANGIOGRAPHY

DIAGNOSIS

A computed tomography scan showed a blush in the right inferior thyroid artery (arrow *figure 2*) most probably caused by the guide wire (notably with a soft curled end) harming the vessel when entering from the right radial artery used for the coronary angiogram.

The patient's right inferior thyroid artery stems from the thyrocervical trunk, also known as the innominate artery, originating most cranially from the right subclavian artery as is most common. Yet, several different origins have been delineated.^{1,2} Park *et al.* were the only ones to report this specific complication.³ Furthermore, with five cases described in the literature, mediastinal haematoma as a result of radial cardiac catheterisation appears to be a rare complication.^{3,5} This is the first case describing concomitant respiratory failure. In a cohort of 3369 cardiac catheterisations via the radial approach, Sanmartin *et al.* described several bleeding complications but none were located more proximally than the brachial artery.⁶ Other vascular complications include bleeding anywhere from

the access site (most frequently) to the branches of the aorta along the route of the vessel, pseudoaneurysm, arterovenous fistula and thromboembolism.⁷⁻⁹

The evolving haematoma in our patient led to compression of the upper airways and consequently caused respiratory distress requiring intubation. Four days later she was extubated with no respiratory sequelae.

Although, in the past, not everyone needing a diagnostic catheterisation was on anticoagulation, Fransson *et al.* demonstrated an increase in vascular complications when they were.⁹ Nowadays, when using the radial artery, there is a trend towards adding platelet inhibitors to coumarin derivatives, which will have contributed to the haemorrhagic diathesis in our patient.

Anticoagulation was reversed and the idea of coiling the bleeding artery was considered but abandoned because of clinical improvement. A week later she underwent successful coronary stenting and her anticoagulation therapy was resumed uneventfully.

Figure 2. Computed tomography of the chest with contrast shows an active bleeding focus in the right inferior thyroid artery



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