

'Expanding before my very eyes!': spontaneous axillary artery branch bleeding resulting in a large, subpectoral haematoma

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DESCRIPTION

A 66-year-old woman presented to the emergency department with a mildly painful, right upper chest swelling, which had rapidly developed over the past few hours with no recalled trauma. She described it as 'expanding before her very eyes!'—this was echoed by the Triage Nurse who insisted that, within the half hour of Emergency Department arrival and initial assessments, it had increased in size.

On examination, the patient was alert, moderately pale and had a tachycardia of 108 bpm; her other vital signs were stable. Examination showed a large, firm, non-pulsatile swelling measuring approximately 20×15×3 cm to her right anterior chest wall above her right breast with no overlying discoloration or skin changes. She had full range of movement in her right shoulder and her respiratory examination was normal.

After securing large bore intravenous access, a CT scan of the thorax with contrast was promptly done and showed a 13.4×9.5×16.0 cm right anterior chest wall haematoma displacing her pectoralis major muscle anteriorly (see figure 1). It was supplied by an anterior branch of the right axillary artery, which was non-aneurysmal (see figure 2). Coil embolisation with two 3 mm helical coils was immediately done by interventional radiology, with good cessation of flow.

Despite prompt intervention, the patient's haemoglobin level dropped from 109 to 89 g/L within a few hours of presentation and she required a blood transfusion. She was found to be coagulopathic secondary to alcoholic liver disease (prolonged prothrombin time (PT) 15.6 s and activated partial thromboplastin time (APTT) 40.4 s)—this was the only identified predisposing factor for her spontaneous bleeding and she was given several doses of vitamin K during her admission. A repeat angiogram 4 days later showed an interval size reduction in her right chest wall haematoma to 12.8×6.5×15.4 cm, and a subsequent liver biopsy showed steatohepatitis and fibrosis without cirrhosis.

She was discharged 20 days later with ongoing investigations to outrule other predisposing conditions to spontaneous bleeding.

Spontaneous arterial bleeding is unusual and as such requires a high index of suspicion and rapid intervention due to the significant blood loss which results.^{1,2} There are documented cases of spontaneous arterial bleeding in patients with Ehlers-Danlos syndrome, Marfan syndrome, with liver disease³ or chronic renal failure,⁴ on

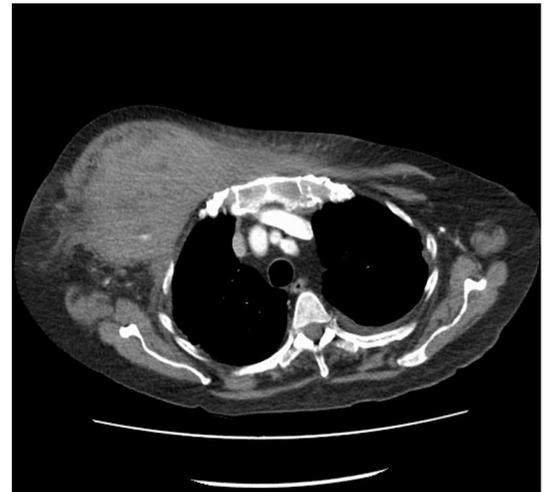


Figure 1 CT scan of the thorax (axial view) showing large right anterior chest wall haematoma.

immunosuppressive medication,⁵ etc, but spontaneous arterial bleeding especially in the absence of an aneurysm is generally rare. Endovascular approaches such as embolisation or stent grafting provide an alternative and/or additional treatment option to open vascular repair and will often be preferred if available, especially in a haemodynamically stable patient with atraumatic bleeding such as was the case in this patient.⁶ However, some arterial bleeding still require a wide variety of open



Figure 2 CT scan of the thorax (coronal view) showing haematoma and supplying arterial branch.



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exposures and procedures, particularly in unstable patients or in traumatic arterial injuries.⁷

Learning points

- ▶ Prompt access to CT imaging and interventional radiology (I.R.) facilities is instrumental to improving outcomes in cases of spontaneous arterial bleeding.
- ▶ A high index of suspicion and a sense of urgency is required when presented with such a case as the patient can rapidly progress to haemodynamic instability and may require surgical intervention.
- ▶ Intervention such as insertion of large bore intravenous access, cardio-respiratory monitoring, etc, should be instituted prior to transfer for CT scan and the vascular surgery team should be involved prior to proceeding to I.R., as the patient may need to go to theatre if embolisation is unsuccessful or if they become unstable.

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