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PHOTO QUIZ

A patient with a long history of nicotine addiction presenting with haemoptysis

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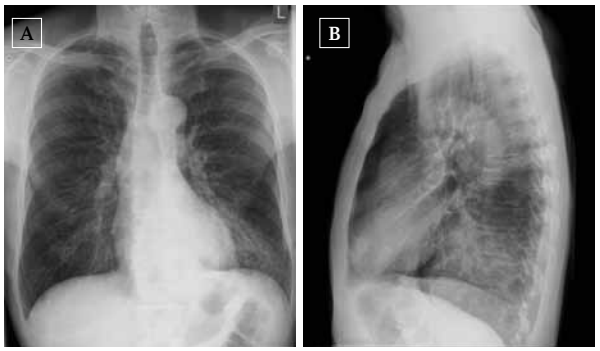
CASE REPORT

A 54-year-old man, who has been smoking two packs a week for more than 40 years, presented to the outpatients department with haemoptysis. He has a history of a untreated familial hypercholesterolaemia. He denied having suffered a major physical traumatic event.

The patient had coughed up one cup of clear blood one hour before presentation and complains of a nonproductive cough for more than three months. His body weight is stable, his appetite has not decreased and the patient does not complain about fever or flu-like symptoms.

Physical examination is unremarkable and did not reveal any signs of haemodynamic instability. Laboratory investigation showed a haemoglobin level of 8.4 mmol/l; this was 9.4 mmol/l one year before presentation. There were no signs of inflammation. Total cholesterol levels had been 7.6 mmol/l for more than two years. A chest X-ray was performed (*figure 1A* and *B*).

Figure 1. *X-ray of the thorax in posteroanterior (A) an lateral (B) view*



WHAT IS YOUR DIAGNOSIS?

See page 185 for the answer to this photo quiz.

ANSWER TO PHOTO QUIZ (PAGE 182)

A PATIENT WITH A LONG HISTORY OF NICOTINE ADDICTION PRESENTING WITH HAEMOPTYSIS

DIAGNOSIS

The chest X-ray shows an infiltrate in the left lower lobe. On suspicion of a pneumonic infiltrate, a bronchus carcinoma or bleeding from an arteriovenous malformation, a CT scan was performed. The CT scan showed a saccular aneurysm of the thoracic descending aorta with a thrombus at the inner and outer side of the circular calcified plaque, indicating recent bleeding. A continuous layer of blood clots was seen from the aneurysm ending centrally in the pulmonary tissue (*figures 2A* and *B*).

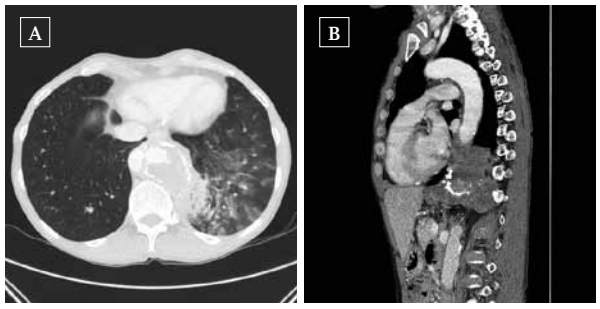
Additional bronchoscopy revealed many blood clots in the left lower lobe. The patient remained haemodynamically stable and was scheduled for an urgent endovascular intervention.

Hypercholesterolaemia and long-term nicotine addiction are established risk factors for atherosclerosis, which is the cause of the vast majority of descending thoracic aneurysms. Other causes are connective tissue disorders such as the Marfan or Ehlers-Danlos syndromes and inflammatory disorders such as giant cell arteritis, syphilitic aortitis or ankylosing spondylitis.

Chronic mechanical pressure from the aneurysm on the pleural layer probably lead to a disruption in the pleural layer, which explains the localisation of blood in the pulmonary tissue.

Overwhelming haemoptysis has been reported as the first presenting symptom of a bleed from a thoracic aortic aneurysm resulting in hypovolaemic shock.[1] However, as presented in this case and once before, moderate haemoptysis can also be the result of a more subacute bleeding. Implementing an adequate diagnostic approach, including a CT scan, is essential and could detect a subacute bleed from a thoracic aneurysm before a life-threatening bleeding occurs.[2]

Figure 2. *Sagittal view (A) and axial view (B) of the CT scan*



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2. Sun D, Mehta S. Hemoptysis caused by erosion of thoracic aortic aneurysm. CMAJ. 2010 [in press].