CASE REPORT

Haemoptysis or haematemesis? The not so bleeding obvious

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SUMMARY

An aortobronchial fistula is a rare but important diagnosis, which if missed is potentially fatal. We describe a case of a man who presented with severe, spontaneous per oral bleeding. The patient believed the bleeding occurred on coughing not vomiting. Despite denying haematemesis, initial investigations were focused on excluding an upper gastrointestinal bleed because of multiple risk factors (previous alcohol dependence, recent gastritis and heavy smoking). Two urgent oesophagogastrroduodenoscopies were unremarkable. A plain chest film demonstrated left-sided perihilar shadowing of possible neoplastic origin. Two days later following sudden torrential haemoptysis, an emergency CT angiogram demonstrated a descending aortic aneurysm and associated aorto-bronchial fistula. The case helps reaffirm the old aphorism that “the patient is telling you the diagnosis”—this was indeed haemoptysis not haematemesis. Despite the power of hindsight, it is a reminder that accurate history-taking is essential in selecting the best first-line investigation, particularly in cases of diagnostic uncertainty.

BACKGROUND

The cornerstone of clinical medicine is listening to a patient's story of their illness. The case we describe here, aside from being an interesting diagnostic challenge, underlines the importance of accurate history-taking. It is a reminder that symptoms are abnormalities perceived by the patient and we as doctors should never dismiss out-of-hand anything that the patient tells us.

HISTORY

A slightly unkempt but pleasant middle-aged man was admitted via A&E department to a general medical ward, having described two spontaneous episodes in which he passed large volumes of blood per orally.

As the unusual details of the story were revealed, the patient stated that the bleeding was always on coughing and associated with type 7, bloody diarrhoea. In spite of mild epigastric pain, he denied any haematemesis or long-term use of aspirin and non-steroidal anti-inflammatory drugs (NSAIDs).

Interestingly, the patient's background included chronic pancreatitis secondary to previous alcohol dependence; a significant smoking history, and mild gastritis on a recent endoscopy oesophagogastrroduodenoscopy (OGD) 3 months previously. He had not had alcohol or smoked for a number of years; prior to admission he was fully independent, self-caring and lived with his wife.

The patient was alert, orientated and haemodynamically stable. On initial general medical examination the abdomen was soft with some mild epigastric tenderness but otherwise unremarkable. On PR examination there was rusty red stool without any evidence of true melaena.

INVESTIGATIONS

Routine bloods were normal apart from a fall in haemoglobin from 126 to 86 mg/dL. Despite the patient's report of haemoptysis, initial investigations were focused on excluding an upper gastrointestinal bleed because of the existence of multiple risk factors. Two urgent OGDs failed to identify an active site of haemorrhage.

More in keeping with haemoptysis, a plain chest film showed left perihilar shadowing, which was possibly neoplastic or infectious in origin. The patient was observed across the weekend while awaiting an urgent CT of the thorax in order to further elucidate the cause of the lesion.

DIFFERENTIAL DIAGNOSIS

In spite of the patient's report, the medical history meant that initially an upper gastrointestinal bleed had to be excluded. Following the two unremarkable OGDs, the search for an alternative non-GI cause began.

Bronchogenic carcinoma was high on the list of differential diagnoses because of the perihilar shadowing and a heavy smoking history. Unfortunately malignancy alone failed to explain the unusual combination of severe haemoptysis and bloody diarrhoea. The only remaining explanation was either a dual pathology or a much rarer cause.

TREATMENT

After two symptom-free days, a further episode of torrential haemoptysis occurred without warning. An emergency CT of the thoracoabdominal angiogram result finally elucidated the diagnosis ([figure 1](#)). The haemorrhage originated from an aortobronchial fistula with an underlying descending aortic aneurysm ([figure 2](#)); the bloody diarrhoea explained by copious swallowed blood.

OUTCOME AND FOLLOW-UP

The patient successfully underwent emergency thoracic endovascular aneurysm repair (TEVAR) and was eventually discharged home following brief treatment for an infected stent ([figure 3](#)). In spite of blood cultures and a syphilis screen, no specific aetiology for the aneurysm was ever

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Figure 1 A CT of the thoracic angiogram coronal cross-section showing the fistula connecting the aorta aneurysm and bronchus.

identified. At 1 year follow-up, the patient had regained his normal function status.

DISCUSSION

As described, the focus of the investigation was on excluding an upper GI bleed or bronchogenic carcinoma. On hindsight, it is clear that neither diagnosis explains the patient's main symptom of haemoptysis. The case helps remind us of the old aphorism "the patient is telling you the diagnosis"!

An aortobronchial fistula is a rare but important diagnosis and one not to be missed—roughly 50% of patients die before a diagnosis is reached. Often a thrombotic plug forms in the fistula leading to a stable asymptomatic period of several days prior to a final, fatal bleed.¹ Considering this patient resided on a medical ward with a delay in diagnosis, he was relatively fortunate to survive the resulting torrential haemorrhage.

Figure 2 CT angiogram anterior view of the underlying aneurysm using three-dimensional digital subtraction image technique.

Figure 3 Repeat CT angiogram digital subtraction image following thoracic endovascular aneurysm repair.

The majority of cases reported in the literature (75%)¹ have occurred as a medium-term to long-term complication of descending thoracic aorta surgery, particularly in patients with congenital heart defects. Other rarer proposed causes that have been reported include trauma, atherosclerosis, tuberculosis, syphilis, bacterial aortitis and mycotic aneurysm (related to primary aortitis, septic emboli or adjacent infection, such as pancreatitis or a psoas muscle abscess).^{2,3}

Learning points

- ▶ "Patient is telling you the diagnosis!"
- ▶ Seventy-five per cent of diagnoses can be made from the history alone.⁴
- ▶ Uncertain diagnoses need a plan for investigation based on the history.
- ▶ Inpatient observation is essential with an unidentified source of major haemorrhage.
- ▶ Inductive reasoning avoids 'cherry-picking' symptoms to fit an incorrect diagnosis.

Competing interests None.

Patient consent Obtained.

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REFERENCES

- 1 Falode T, Alphonso C, Austin C, *et al.* Aortobronchial fistula: the hidden connection. *Asian Cardiovasc Thorac Ann* 2006;14:74–5.
- 2 Chen IM, Chang HH, Hsu CP, *et al.* Ten-year experience with surgical repair of mycotic aortic aneurysms. *J Chin Med Assoc* 2005;68:265–71.
- 3 Daitoku K, Fukada I, Taniguchi S, *et al.* Endovascular treatment of an aortobronchial fistula caused by a distal aortic arch mycotic aneurysm: report of a case. *Surg Today* 2010;40:54–6.
- 4 Peterson MC, Holbrook JH, Hales D, *et al.* Contributions of the history, physical examination, and laboratory investigation in making medical diagnoses. *West J Med* 1992;156:163–5.

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