

Tracheo-oesophageal compression due to massive spontaneous retropharyngeal haematoma

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Abstract

Spontaneous retropharyngeal haematoma and dissecting intramural haematoma of the oesophagus are two distinct, but rare, phenomena. We describe the first case of complete tracheo-oesophageal obstruction due to spontaneous retropharyngeal haematoma presenting with chest pain and dysphagia. Rapid imaging allowed life-saving transfer to the regional specialist centre, with immediate surgical intervention. The importance, aetiology and clinical features of both diagnoses are discussed.

Keywords: Bleeding • Bleeding control • Oesophagus • Imaging • Tracheal stenosis

CLINICAL SUMMARY

A 53-year old lady presented to the Emergency Department of a district general hospital with chest pain and dysphagia. This was sudden in onset, severe in nature and rapidly progressive over two hours. It was followed by progressive diffuse neck swelling over the following 12 hours. She had no prior cardiovascular, respiratory or gastrointestinal symptoms, no history of vomiting or foreign/sharp body ingestion, or any medical or medication history.

A neck, chest and abdominal computed tomography (CT) scan was performed with intravenous contrast (Fig. 1), demonstrating a large haematoma, centred on the posterior wall of the upper oesophagus, and obliterating the lumen. This extended cranially into the retropharyngeal space towards the occiput, and anteriorly to surround the thyroid gland and bulged into both carotid sheaths. There was significant tracheal compression at and above the carina, reducing the lumen to 3 mm. There was no extravasation of contrast to suggest significant on-going bleeding. Initial haemoglobin concentration was 12.1 g/dl, dropping to 10.0 g/dl within 6 h. Both prothrombin time and activated partial thromboplastin time were within normal limits. Platelet count was 186×10^9 /L. Provisional diagnosis was dissecting intramural haematoma of the oesophagus (DIHE). The patient was immediately transferred to the regional Thoracic, Oesophago-gastric and Otorhinolaryngology centre.

On arrival, an expanding neck haematoma with respiratory distress due to tracheal compression was apparent. The patient was transferred immediately to the operating room in order to secure a definitive airway, but on arrival, ventilation became impossible due to complete tracheal obstruction. In the presence of Thoracic and Otorhinolaryngology surgeons, anaesthetists and

intensivists, intubation was attempted via rigid bronchoscopy. This was initially impossible, and an emergency tracheostomy was attempted. However due to haematoma volume, this also proved extremely difficult; jet insufflation to provide temporary ventilation was then achieved via bronchoscopy (7.5 mm Efer-Dumon® bronchoscope, Efer Endoscopy, La Ciotat, France) allowing the tracheostomy to be completed. During this, an iatrogenic injury to the oesophagus occurred, which was directly sutured. The patient was stabilized and transferred to the adult intensive care unit.

The next day the patient suddenly deteriorated, with neck swelling and progressive difficulty in ventilation, requiring repositioning of the tracheostomy. Repeat CT angiography (Fig. 2) showed no expansion of the haematoma, but the development of bilateral haemothoraces, which were drained successfully with surgical chest tubes. The patient made a gradual recovery, complicated by bilateral pneumonia and neck abscesses requiring surgical drainage. Oesophagoscopy demonstrated extrinsic compression, but with normal mucosa. Consequently, the diagnosis was amended to spontaneous retropharyngeal haematoma (SRH). The patient was discharged home 3 weeks after admission.

DISCUSSION

Both DIHE and SRH are extremely rare. Although DIHE is usually associated with sudden oesophageal pressure changes due to vomiting, direct trauma due to food and instrumentation may be responsible [1]. In many, however, the initial cause is unclear (although an underlying history of coagulopathy is often found, and abnormal swallowing mechanisms have been postulated for this group) [1]. Retropharyngeal haematoma is most commonly



Figure 1: Spontaneous retropharyngeal haematoma on computer tomography.

caused by cervical trauma, although instrumentation and sudden pressure changes (due to vomiting, coughing and sneezing) may also be causative [2]. A small subset appears to be spontaneous, although coagulopathy may again contribute. Distinction between the two may be difficult. Spontaneous presentations of both conditions are usually less severe.

Clinically, DIHE presents with permutations of the triad of sudden chest pain, haematemesis and dysphagia. All three are present in approximately 30%, with a further 50% presenting with two of the three [1]. Consequently, without appropriate clinical suspicion, DIHE may be mistaken for conditions, such as acute coronary syndrome and aortic dissection. Diagnosis may be delayed, with negative consequences. Retropharyngeal haematoma typically presents with neck pain and variable tracheal/oesophageal obstruction [3]. While the majority of cases are minor and managed conservatively, intervention is rarely required for major bleeding, either surgically via thoracotomy, or radiologically via angiography with embolization [1, 2, 4]. Oesophageal obstruction can be managed endoscopically.

The retropharyngeal space is located immediately posterior to the naso-, oro- and hypopharynx, larynx and trachea. Its anterior border is formed by the buccopharyngeal fascia (surrounding the pharynx, trachea, oesophagus and thyroid), and its posterior border by the alar fascia. Laterally, it is bounded by the parapharyngeal spaces and carotid sheaths. Its cephalad extent is the skull base, and it caudally reaches the tracheal bifurcation [5].

We believe that this is the first reported case of profound tracheo-oesophageal compression due to SRH, presenting with chest pain and dysphagia. However, despite the clinical severity, rapid CT scanning was able to exclude competing diagnoses (such as oesophageal perforation or aortic dissection), to allow



Figure 2: Extensive haemomediastinum and haemothoraces.

immediate transfer to a centre with appropriate multispecialty expertise and to guide conservative management following life-saving tracheostomy, avoiding the need for hazardous evacuation or exploration of the haematoma. Oesophagoscopy was subsequently able to exclude DIHE and to make the diagnosis of SRH.

Conflict of interest: none declared.

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