Simple treatment of stridor caused by achalasia of the cardia

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Acute air-way obstruction in achalasia can result from an air-filled oesophagus compressing on the trachea. Decompression of the mega-oesophagus can be achieved using a nasogastric tube.

Case report

A 73-year-old woman presented to the emergency department with a 4-hour history of worsening dyspnoea and 8-week history of progressive dysphagia to both solids and liquids associated with 7 kg weight loss. There was no past medical history of note and she was not on any regular medication.

On examination she was in respiratory distress, unable to speak in full sentences with audible stridor. She was tachycardic (115 bpm), hypertensive (204/88mmHg) and tachypnoeic (30 breaths/min) with oxygen saturation of 92% on 15 L oxygen via re-breathable facial mask. Her neck veins were distended with a diffuse tense midline swelling in her neck. Respiratory examination revealed decreased air entry bilaterally and the rest of her systemic examination was normal.

Arterial blood gas analysis revealed a pH of 7.34, pO_2 6.9 kpa mmHg and pCO_2 4.1 kpa. Full blood count, renal and liver function tests were all normal. A 12-lead electrocardiogram was unremarkable apart from sinus tachycardia. Plain chest X-ray revealed an air-fluid level in the mediastinum, with a large air-filled shadow in the region of the neck consistent with neck swelling that was observed during clinical examination (Figure 1).

Mega-oesophagus with external compression on the trachea was suspected. A nasogastric tube was inserted into the oesophagus with continuous aspiration in an attempt to decompress the dilated oesophagus. This manoeuvre relieved the patient's dyspnoea almost instantaneously. Subsequent chest X-ray showed less air in the mediastinum and complete disappearance of the air-filled shadow in the region of neck. A CT scan of the thorax and abdomen subsequently showed a grossly dilated oesophagus with complete narrowing at the lower end and presence of air- fluid level within it. The upper part of the oesophagus had curled upon itself compressing on the trachea, causing the air-filled space in the region of the neck seen on plain chest X-ray (Figure 2).

The biopsies taken from the lower end of the oesophagus showed chronic inflammation with no signs of malignancy. The patient was treated initially with a local injection of Botulinium toxin and subsequently underwent balloon dilatation. She has remained stable to date and remains under regular follow-up.

Discussion

The common causes of acute respiratory compromise include anaphylaxis, respiratory and cardiac pathologies and local tracheal compression due to tumour or trauma. However, this case demonstrates a rare gastrointestinal cause of stridor resulting from air-filled mega-oesophagus secondary to achalasia of the cardia.

Achalasia of the cardia is an idiopathic motility disorder of the lower end of the oesophagus resulting in failure of the gastro-oesophageal sphincter to relax during swallowing.[1] It normally presents as progressive dysphagia to both solids and liquids associated with weight loss. Mega-oesophagus causing acute respiratory distress is a rare presentation and was first reported in the literature by Bello *et al.* in 1950.[2] Although this is a

Figure 1
Chest X-ray demonstrating the presence of air-fluid level within the dilated oesophagus (as shown by the arrow A). There is also a lucent shadow in the middle of neck that was causing the patient's stridor (as shown by arrow B)

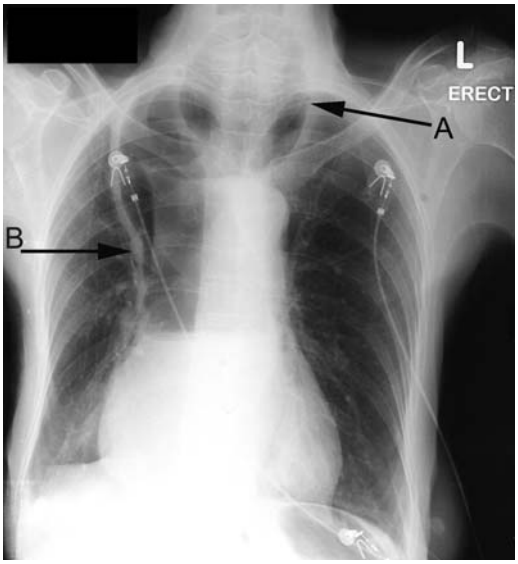
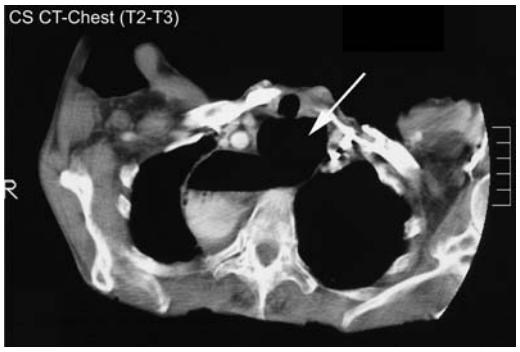


Figure 2
Cross-section of CT-chest at the level of T2-T3 demonstrating the dilated oesophagus compressing on the trachea (as shown by the arrow)



rare presentation of achalasia of the cardia, because of its life-threatening complications it demands early identification and appropriate intervention. Management involves decompression of the air-filled oesophagus to relieve respiratory distress.

Oesophageal decompression can be successfully achieved using nasogastric tube insertion. Although there have been several cases reported in the literature of such presentation,[3–7] not all reports have discussed such intervention involving oesophageal decompression. Nasogastric tube insertion is simple and is a relatively low-risk life-saving intervention in such a scenario. Its relatively low use in previous reports may be due to the unfamiliarity of such an intervention or difficulty in readily recognizing the condition. Delay in identifying the situation can lead to severe airway compromise and mortality. Emergency oesophageal decompression could also be performed with rigid oesophagoscopy, but this may not always be readily available in such situations.

In conclusion, achalasia of the cardia presenting as acute airway compromise from tracheal compression is a rare life-threatening complication in which we recommend the use of a nasogastric tube as a first line of intervention to decompress the dilated oesophagus.

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