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Cough from megaoesophagus

Keywords: emergencies; surgical procedures, minor; gastrointestinal diseases

Case study

Mrs FW, 83 years of age, presented to the emergency department with repeated episodes of attacks of vomiting over several months, coughing, weight loss and worsening shortness of breath.

On examination she was not distressed, but mildly dehydrated. Chest examination revealed decreased air entry in both sides of the chest. Heart sounds were muffled. Other examination was within normal limits.

The initial chest X-ray showed that the patient's mediastinum was dilated and contained an air fluid level (at the level of the sternal notch, see arrow) (Figure 1, 2). At this point, achalasia cardia and megaoesophagus were suspected.

A nasogastric tube was inserted to aspirate the contents of the oesophagus (old partially masticated food particles). In Figure 3 the nasogastric tube was initially positioned in the oesophagus to facilitate emptying. Once aspirated, the nasogastric tube was repositioned in the stomach.

Mrs FW underwent emergency upper gastrointestinal scope that confirmed the megaoesophagus. On endoscopy, once the cricopharyngeus was passed, there was a large pool of thick fluid and masticated food. Aspiration and washout were successful and revealed the oedematous and friable oesophageal wall at the end. The lower oesophageal sphincter was tight and was successfully dilated by balloon and Botox® injections. A few days later a repeat

chest X-ray showed that the air fluid levels had disappeared (Figure 4). The gaseous distension persisted, but is not clinically significant in this setting, and Mrs FW was sent home.

Discussion

Megaoesophagus is the end result of achalasia cardia. Achalasia is uncommon, with an incidence of one per 100 000, and equal gender distribution. The disease can occur at any age, but onset before adolescence is unusual. Megaoesophagus is the result of disordered peristalsis and slow decompensation of the muscular layer of the oesophagus.¹ It can also result from oesophageal obstruction, eg. by a polyp or leiomyoma and secondary oesophagitis,² or a tight gastric band.³ Megaoesophagus can be serious and can cause aspiration pneumonia. Some authors have reported sudden death secondary to megaoesophagus.⁴ Treatment can be medical or surgical (open or laparoscopic).

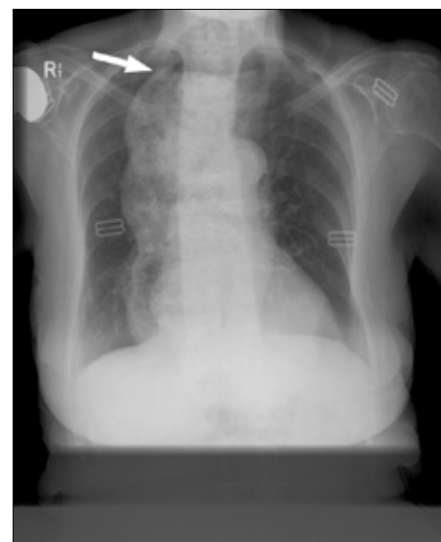


Figure 1. Initial chest X-ray (air fluid level is indicated by arrow)



Figure 2. Initial lateral chest X-ray. Note the position of the air fluid level in the posterior mediastinum

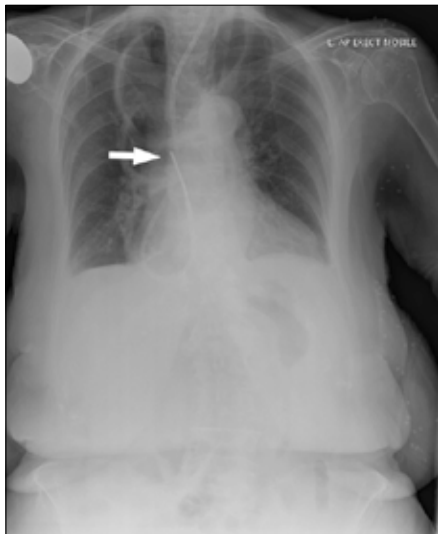


Figure 3. Postnasogastric tube chest X-ray. Note the tip of the nasogastric tube sitting in the oesophagus

Diagnosis of megaesophagus in the hospital emergency department or general practice clinic is mostly straightforward. A good history, clinical examination and a simple chest X-ray are the key diagnostic tools.

Although uncommon, the diagnosis should be kept in mind, particularly in elderly patients, those with chronic cough (especially nocturnal cough), and in patients with a history of esophagitis and gastric reflux.

Emergency gastroscopy is important as it helps to evacuate the thick oesophageal contents, confirms the diagnosis and may help initiate



Figure 4. Postgastroscopy, dilation and Botox® injection chest X-ray

treatment (as in the *Case study*). Botox® injections were successful in the *Case study* and can be repeated after 6–12 months if the patient has recurrent symptoms. Response may be less than the first injection. This (tolerance) effect may be due to neutralising antibodies being formed against the toxin antigen.⁵ The other treatment option is pneumatic dilatation, which is successful in 70–90% of cases, however, relapse rates are high.⁶ The major risk of pneumatic dilatation is oesophageal perforation.

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Conflict of interest: none declared.

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