Answers to Medical Quiz

A1. Esophageogastroduodenoscopy image is showing a deep mucosal defect highly suspicious of an esophageal perforation, see figure 1.

Esophageogastroduodenoscopy image is showing esophageal stricture with esophageal concentric rings highly suspicious of eosinophilic esophagitis, see figure 2.

A2. Antero-posterior chest X-ray showing left-sided pleural effusion suspicious of an esophageal perforation, see figure 3.

CT scan of the chest showing pneumo-mediastinitis with left-sided pleural effusion, see figure 4.

A3. Esophageal perforation could lead to numerous complications including pneumonia, sepsis, empyema and adult respiratory distress syndrome (ARDS). Mortality rates could be as high as 75%. Delay in the presentation or diagnosis of esophageal perforation leads to high morbidity and mortality. Amongst other factors that could affect the prognosis are the site of perforation and the cause; the worst prognosis is associated with Boerhaave Syndrome.

A4.

- Iatrogenic cause: 85% of cases.
- Boerhaave Syndrome: 15%.
- Trauma and foreign bodies (including food bolus): 10%.
- Intra-operative esophageal perforation: 2%.

DISCUSSION

Esophageal food impaction in an adult patient is most commonly associated with pre-existing esophageal abnormalities such as strictures or rings, which impede the passage of a large food bolus. Other abnormalities that predispose to impaction include webs, diverticula, achalasia and tumors[1].

Patients might present with dysphagia or odynophagia, neck or chest discomfort, drooling, choking and respiratory distress[2]. Inability to swallow saliva is an important sign necessitating acute intervention as it indicates total obstruction[3]. If the impaction leads to esophageal perforation, physical examination may reveal neck swelling, tenderness or crepitus. Such patients are usually sick with systemic signs of inflammation including tachycardia, tachypnea, respiratory distress, cyanosis or even circulatory shock[4].

Radiopaque food particles, such as bone could be detected with plain radiographs. X-rays are also important in diagnosing esophageal perforation with subsequent pneumo-mediastinitis. If plain radiographs fail to diagnose the case, CT scan may be of help. CT with oral contrast should be avoided as it could interfere with subsequent endoscopic examination.

All patients should be evaluated for the need of endoscopy and the timing of the endoscopy should be carefully selected. As a general rule, no foreign body including food particles should be allowed to remain in the esophagus for more than 24 hours[5]. Patients who have total obstruction should undergo emergency endoscopy. However, those who have subtotal obstruction could undergo endoscopy within the first 24 hours, preferably within the first 12 hours to prevent aspiration.

Endoscopic management involves removing the bolus with a grasping device, aspirating it with a friction fit adaptor or gently pushing it into the stomach[6]. Non-endoscopic management options include administration of IV glucagon in an attempt to relax the esophagus and to allow the bolus to pass into the stomach[7]. Around 50% of patients who present with food impaction have pre-existing eosinophilic esophagitis, and those patients are more likely to have an esophageal perforation[8].

In esophageal perforation, endoscopic treatment options include endoclips and self-expandable plastic endoluminal esophageal stents; however, surgical intervention is safer and preferred approach. Mortality rates in perforations due to impaction could be 2%[9].

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