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Surgery Quiz – Case 51

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2024, 41(1):143–144

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An 80-year-old man with a history of dysphagia and weight loss of 10 kg for the past three months was referred to our hospital. His height was 172 cm and weight was 84 kg. His body mass index (BMI) was 28.4 kg/m^2 upon his admission. An x-ray was requested at the emergency department (fig. 1) and a repeat of an x-ray after administration of per oral water-soluble contrast (gastrografin) (fig. 2).

Comment

A diaphragmatic hernia (DH) is a rare defect. It is a protrusion of abdominal contents/organ into the thoracic cavity due to a defect of the diaphragm. It is most common as a congenital phenomenon; however, it can be acquired. Congenital DH has an incidence at approximately 0.8–5/10,000 births. Acquired DH occurs following blunt or penetrating trauma, which results in a rupture of the diaphragm, which is then accompanied by herniation of abdominal content. Additionally, there are cases reported where acquired DH can also occur spontaneously or by iatrogenic causes. Acquired DH is rare but can be life-threatening, resulting in incarceration and strangulation with an overall mortality rate of up to 31%.

Hiatal hernia (HH) is a type of diaphragmatic hernia characterized by the prolapse of abdominal organs or the stomach sliding through the hiatal orifice into the mediastinum or the thorax. There have been reported cases of prolapse of a small part of the stomach into the mediastinum without any clinical symptoms though most patients have frequently experienced clinical symptoms, but cases of hiatal hernia involving prolapse of other organs, such as the pancreas,[4] colon,[5] and entire stomach, into the mediastinum.

There are two main types of HH: (a) Sliding HH (>90%) and (b) rolling (para-esophageal) HH (<10%). According to some, they can be divided into four types: (a) Type 1: sliding HH (approximately 95%), (b) type 2: paraesophageal HH with the gastro-esophageal

Figure 1.

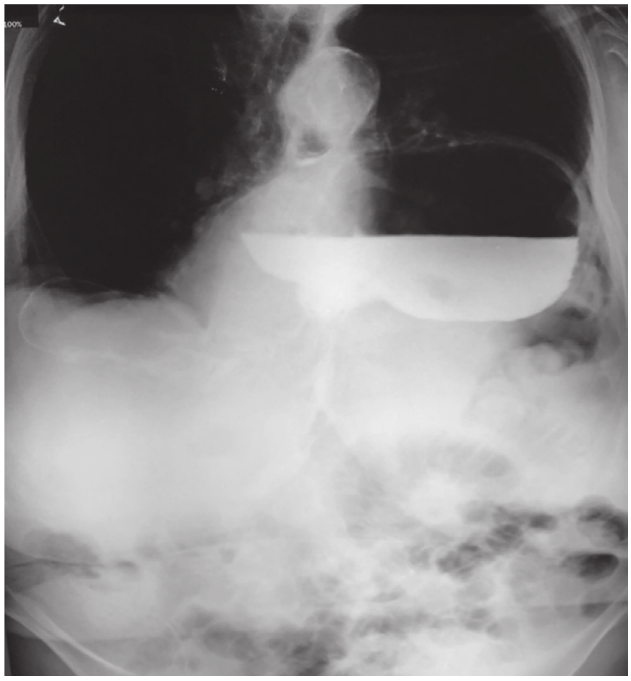

Figure 2.

junction (GEJ) in a normal position, (c) type 3: mixed or compound type, paraesophageal HH with displaced GEJ, and (d) type 4: mixed or compound type HH with additional herniation of viscera.

In sliding hernia the GEJ is usually displaced >2 cm above the esophageal hiatus. The esophageal hiatus is often widened to 3–4 cm (normal upper limit is 1.5 cm). The gastric fundus may also be displaced above the diaphragm. The presence of an air-fluid bubble in the thoracic cavity is suggestive of the diagnosis. The presence of gastro-esophageal reflux (GER) and the function of the lower esophageal sphincter are the crucial factors in producing symptoms.

The most common content of a HH is the stomach. He was admitted to our hospital for dysphagia, and upper gastrointestinal examination revealed the presence of stomach in the thoracic cavity via delayed barium passage (fig. 1). Endoscopic examination revealed that esophagitis was absent.

According to the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES), only investigations that will have an impact on the clinical management of the patient should be performed. Physical exam and the patient's history should be carefully taken, as they may reveal symptoms that were previously not present.

Exams that should be considered in HH: (a) Barium swallow radiography: Information about the size of the herniated stomach and the location of the GEJ. (b) Esophagogastroduodenoscopy (EGD): The state of the esophageal mucosa, the mucosa of the stomach and duodenum, something which cannot be achieved with barrium swallow radiography. Information about erosive esophagitis, Barrett's esophagus, Cameron's ulcer and lesions suspicious for malignancy. (c) Esophageal manometry: Information regarding the motility of the esophagus. A separation between the crural diaphragm and lower esophageal sphincter of 2 cm or more is diagnostic for HH. (d) PH testing: is not essential in the diagnosis of a HH, but is helpful in providing a quantitative analysis of reflux, and (e) computer tomography (CT) is not routinely recommended, but offers additional information on location and type of HH.

According to the current guidelines, surgical treatment of HH by the SAGES was established in the year 2013. Indications for surgery remain the same: symptomatic patients with paraesophageal hernia, patients with obstructive symptoms and gastric volvulus, require urgent surgery. When gastroesophageal reflux disease (GERD) is present with sliding hernia, surgical approach might be considered, and in cases where regurgitation persists despite medical treatment with proton pump inhibitors (PPI).

Surgery is recommended when there are severe symptoms and interfere with the quality of life, when symptoms do not respond to other treatments, when hernia is at risk of strangulation – a situation that can be fatal, and when symptoms include bleeding, ulcers, or narrowing of the food pipe or esophagus, which is known as an esophageal stricture.

Nissen fundoplication is the most common surgery for a HH, though there are others as well, such as open surgery, Toupet, Dor, Linx, EsophyX, Stretta, endoluminal fundoplication (ELF), transoral incisionless fundoplication (TIF), endoscopic anterior fundoplication with the Medigus Ultrasonic Surgical Endostapler (MUSE).

Our patient was referred to a larger hospital for further assessment and treatment.

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