

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Surgery Quiz – Case 50

Richard Schatzki was a radiologist who described a ring-like structure in patients with dysphagia, a structure that would later bear his name. A Schatzki ring is a circular membrane of mucosa and submucosa that forms at the squamocolumnar junction of the distal esophagus. They appear as thin membranous structures. They do not contain any muscularis propria. The upper surface is squamous epithelium and the lower surface is columnar epithelium. This differentiates it from esophageal webs, which have squamous epithelium on both sides. Schatzki rings are always associated with hiatal hernias. Gastroesophageal reflux (GERD) and Barrett's esophagus has been thought of as a reason for their creation. It has been thought that the creation of a Schatzki ring is the body's response to the frequent acid exposure and a natural way of the esophagus preventing the development of Barrett's esophagus. Studies have shown that Barrett's esophagus is less common when a Schatzki ring is present, especially long-segment Barrett's esophagus. Eosinophilic esophagitis has been associated with Schatzki ring.

The prevalence of a Schatzki ring is 6% to 14% of barium radiographs. It is the most common cause of dysphagia for solid food in adults. It causes narrowing of the distal esophageal lumen that creates an intrinsic mechanical disorder. Symptoms of dysphagia or complications like food impaction will become apparent when the diameter becomes so small that food is unable to pass. The ring does not cause symptoms until it reaches a diameter that obstructs food from passing through. Richard Schatzki developed the "Schatzki rule" which was that a ring under 13 mm will always have symptoms and a ring larger than 25 mm will always be asymptomatic. When food becomes stuck, patients can develop odynophagia or chest pain. Most Schatzki rings do not cause symptoms, but the main symptom that does occur is dysphagia and this can be as a result of food impaction. Symptoms are mostly associated with not very well-chewed meat and sometimes described as food sticking in the chest that has been referred to as "Steakhouse syndrome". Less often symptoms are associated with a sensation of a lump between the cricoid and sternum. When there is food impaction the patient complains of odynophagia. Symptoms are worse with solids and less with liquids. The evaluation of a Schatzki ring is a barium esophagram. It will show an area of the distal esophagus that is less distensible creating the ring-like structure on radiographic images (fig. 1). The patient is asked to swallow a substance like gastrografin (sodium amidotrizoate) contrast medium or barium swallow to assess the diameter of the ring. After this an endoscopy is followed to evaluate the ring, and then treat patients with symptoms (fig. 2). If the finding is incidental and the patient has no symptoms, treatment is not necessary until symptoms occur. Endoscopy is recommended to

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2023, 40(6):856–857

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rule out other causes of strictures, especially esophageal malignancies. Biopsies should be performed if there is an irregular z-line to assess for Barrett's esophagus. Biopsies of the ring can be done as a treatment method as well.

Other reasons causing dysphagia include eosinophilic esophagi-

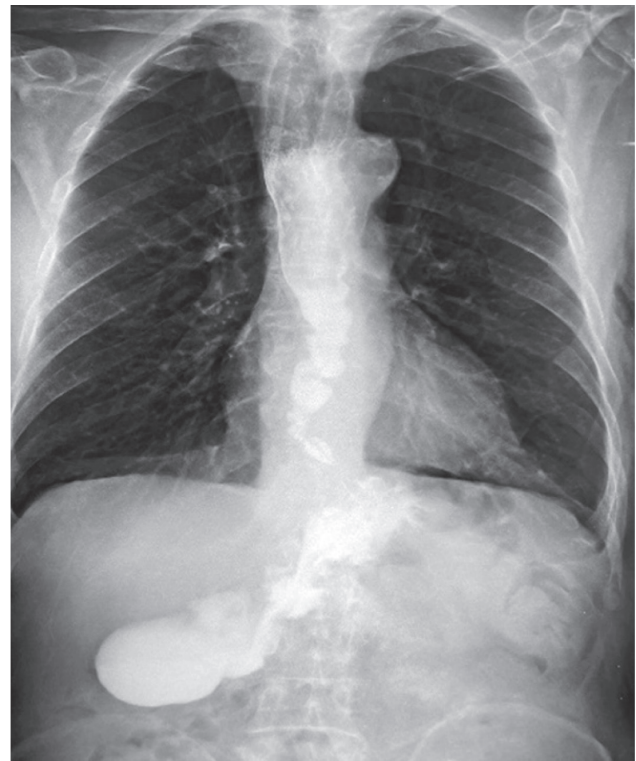


Figure 1

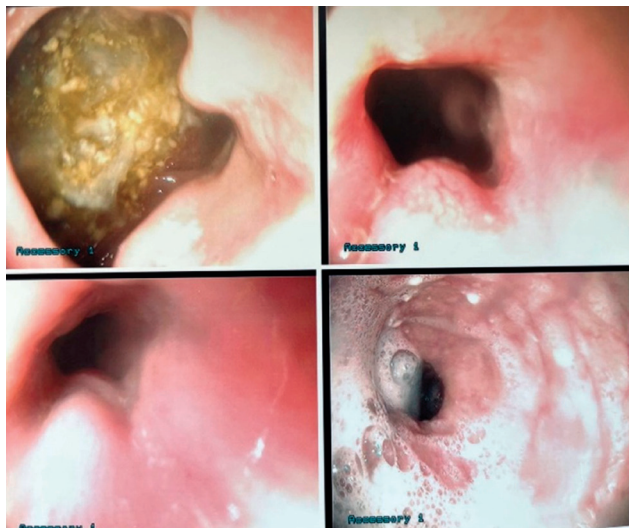


Figure 2

tis, reflux esophagitis, esophageal strictures, extrinsic esophageal compression, motility disorders, and malignancy. Esophageal infections like *Candida* esophagitis, pill esophagitis, radiation-induced esophagitis or esophageal rupture are also within the differential diagnosis of a Schatzki ring.

The treatment is to reduce the diameter of the ring and to allow passage through the esophagus. This usually happens breaking the ring. Methods of doing so include dilation and or biopsies of the ring with biopsy forceps. Dilation can be done with bougies or pneumatic balloons. Bougies can be used with a guidewire (Savory dilators), without a guidewire (Maloney dilators), or with a pneumatic balloon dilator. Dilation with a bougie is done without direct visualization of the esophagus, but guide wire placement is done with direct visualization during endoscopy showing the path of the dilator. The pneumatic balloon dilators allow dilation with direct visualization. Fluoroscopy can be used as well to assist with dilation. Often patients are on proton pump inhibitor (PPI), especially if they have mechanical obliteration of the ring with dilation or biopsy forceps. There is evidence that PPI along with dilation is safe and effective.

A Schatzki ring is a benign stricture and when symptomatic it can be effectively treated. Whilst the patient often does well, and symptoms improve after treatment, recurrence does occur with rates up to 64% in the first two years; therefore requiring repeated dilation.

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