

Intramural Pseudodiverticulosis of the Esophagus

Gregor P, Nadir G, Henning S,¹ Mathias L

Departments of Diagnostic Radiology, ¹Gastroenterology, University Hospital Freiburg, Freiburg, Germany.

Correspondence:

Gregor Pache,
E-mail:
pache@mrs1.ukl.uni-freiburg.de

A 57-year-old male with a history of chronic alcoholism consulted our university medical center because of intermittent dysphagia for two years. Endoscopy, performed in another hospital, had not revealed any diagnosis. The patient occasionally suffered from unintentional stool loss. Proctological examination had shown no pathological findings, however neurologic examination had revealed a sensory neuropathy.

Barium-contrast esophagogram (Barium®, Guerbet, Sulzbach, Germany) showed multiple flask-shaped outpouchings in the esophageal wall. On double contrast esophagogram, most of the outpouchings were still filled with barium (Figure 1 and 2). A moderate stricture found in the upper esophagus (Figure 1) regressed slightly after the administration of butylscopolamin (Figure 2). Esophagogram depicted small interconnecting intramural tracks (Figure 1).

Received : 08-01-05
Review completed : 18-02-05
Accepted : 18-03-05
PubMed ID : 16388181
J Postgrad Med 2005;51:328-9

Endoscopic examination revealed multiple small diverticula in the esophageal wall (Figure 3). Histology revealed hyperplasia of the esophageal epithelia with signs of a moderate chronic esophagitis. Microbiological examination showed no pathological findings. Manometric examination revealed esophageal hypermotility. The patient received butylscopolamin for a symptomatic therapy.

Discussion

Esophageal intramural pseudodiverticulosis (EIP) is a rare disorder that is characterized on esophagogram by multiple flask-shaped outpouchings in the esophageal wall.^[1] The pseudodiverticula represent dilated excretory ducts of deep esophageal mucous glands.^[2]

Levine *et al.* reported an incidence of 0.15% of EIP on 14350 studied barium esophagograms.^[1] However, only about 200 cases of EIP have been published so far. Clinical presentation is in about 75% of the patients dysphagia.^[3,4] However, EIP

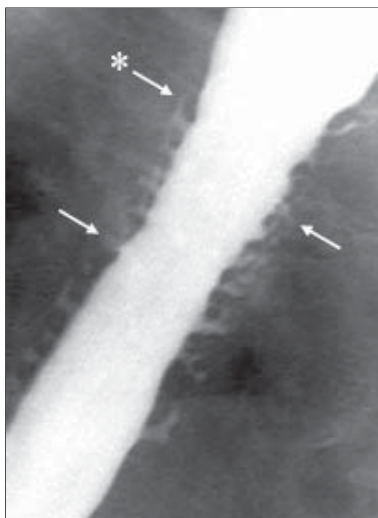


Figure 1: Single-contrast esophagogram reveals moderate stricture in the upper esophagus. Multiple flask-shaped outpouchings are found in the esophageal wall. Tiny collections of barium are found outside the esophageal wall that do not communicate with the lumen (arrows). Some of the pseudodiverticula show thin interconnecting intramural tracks (star).



Figure 2: Double-contrast esophagogram shows most of the pseudodiverticula still filled with barium. After the administration of butylscopolamin the stricture has slightly resolved.

can also be an incidental finding on esophagogram.^[1,3,4]

The etiology of EIP remains unknown, however current data suggests that pseudodiverticulosis is not a primary disease of the esophagus, it is much more a consequence of chronic irritation by different causes like esophageal reflux, diabetes or chronic alcoholism.^[3,4] Esophageal inflammation has been reported in up to 90% of the patients with EIP.^[3] Dilatation of the ducts might be caused by obstruction with inflammatory material or extrinsic compression due to periductal inflammation with fibrosis.^[3] Disturbance of neurologic functions, e.g. diabetes mellitus can cause esophageal hypermotility, an entity that has only been reported in three cases of EIP.^[3,4] Additional chronic neural involvement, as in our patient, has not been described before. We consider the impaired neurologic function as causative factor, however, we do not have an evidence for a direct cause-effect relationship.

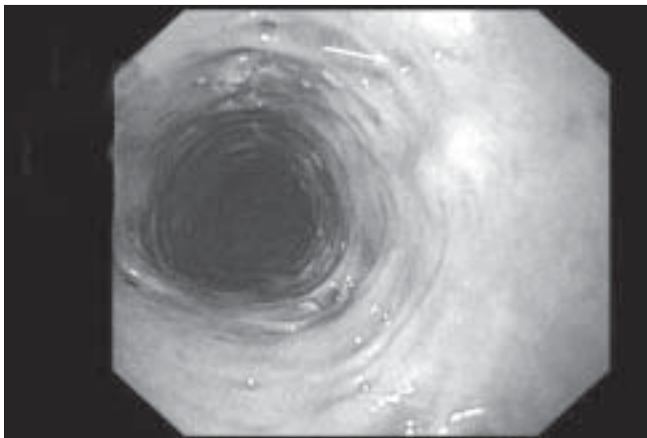


Figure 3: Endoscopic view of the upper third of the esophagus, demonstrating multiple tiny ostias of intramural pseudodiverticula (arrow).

Patients often have associated strictures, mostly in the upper esophagus. Endoscopic bouginage of associated strictures is effective in treating dysphagia. Treatment of the underlying esophageal disease is mandatory, e.g., proton pump inhibitors in esophageal reflux disease, or (as in our case) butylscopolamin for motility disorders.^[3,4]

Intramural tracking is often seen in patients with EIP.^[5] Although there is little known clinical significance of this finding, it is important in establishing differential diagnosis as intramural tracks should not be mistaken for ulceration or extramural barium collections associated with perforation.^[5] The most important differential diagnosis is underlying esophageal carcinoma, which has to be excluded carefully.^[1,6] Plavsic *et al.* reported a much higher incidence of EIP in patients with esophageal carcinoma (4,5% of 245 patients) than in a control group (0,9% in a population of 6400).^[6] This implies increased risk of esophageal carcinoma, although a causative relationship could not be established by the study.

References

1. Levine MS, Moolten DN, Herlinger H, Laufer I. Esophageal intramural pseudodiverticulosis: a reevaluation. *Am J Roentgenol* 1986;147:1165–70.
2. Luedtke P, Levine MS, Rubesin SE, Weinstein DS, Laufer I. Radiologic diagnosis of benign esophageal strictures: a pattern approach. *Radiographics* 2003;23:897–909.
3. Hahne M, Schilling D, Arnold JC, Riemann JF. Esophageal intramural pseudodiverticulosis: review of symptoms including upper gastrointestinal bleeding. *J Clin Gastroenterol* 2001;33:378–82.
4. Ritz JP, Germer CT, Zimmer T, Isbert C, Buhr HJ. Esophageal hypermotility associated with intramural pseudodiverticulosis. Primary esophageal disease or epiphenomena? *Surg Endosc* 2000;14:681.
5. Canon CL, Levine MS, Cherukuri R, Johnson LF, Smith JK, Koehler RE. Intramural tracking: a feature of esophageal intramural pseudodiverticulosis. *Am J Roentgenol* 2000;175:371–4.
6. Plavsic BM, Chen MY, Gelfand DW, Drnovsek VH, Williams JP 3rd, Kogutt MS, *et al.* Intramural pseudodiverticulosis of the esophagus detected on barium esophagograms: increased prevalence in patients with esophageal carcinoma. *Am J Roentgenol* 1995;165:1381–5.