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A RARE CASE OF ESOPHAGEAL INTRAMURAL PSEUDODIVERTICULOSIS

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ABSTRACT

We report the case of a 45-year-old male who presented with 10-month progressive dysphagia to solids and liquids and was subsequently diagnosed with oesophageal intramural pseudodiverticulosis (EIPD). EIPD is an uncommon benign condition characterized by multiple small outpouchings within the oesophageal wall, measuring about 1-4 mm in length and 1-2 mm in width. This case emphasizes the importance of thorough diagnostic evaluation to exclude associated conditions and potential complications. The patient's symptoms, diagnostic workup, and treatment approaches are discussed, emphasizing the importance of recognizing this rare condition in the differential diagnosis of dysphagia and highlighting the importance of patient follow-up for optimal patient outcomes and to avoid complications. The clinical presentation can vary, but dysphagia is the most common symptom. Treatment of oesophageal intramural pseudodiverticulosis has historically been limited to addressing the underlying condition and symptom management with acid suppression, anti-fungal therapy, and endoscopic dilation in areas of stricture.

KEYWORDS

Oesophageal intramural pseudodiverticulosis, dysphagia, oesophageal motility disorders

LEARNING POINTS

- Oesophageal intramural pseudodiverticulosis should be considered in any patient with chronic dysphagia, even in younger, healthy individuals without traditional risk factors.
- Definitive diagnosis requires a comprehensive multimodal workup—endoscopy, barium oesophagography, manometry, pH monitoring, and biopsies—to exclude other aetiologies.
- Symptomatic relief and disease stability are typically achieved through conservative management with proton pump inhibitors and tailored dietary modifications.
- Scheduled follow-up with periodic clinic reviews and repeat endoscopy is essential to monitor for stricture formation, rare perforations, or potential malignant transformation.

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INTRODUCTION/BACKGROUND

Oesophageal intramural pseudodiverticulosis (EIPD) is an uncommon benign condition characterized by multiple tiny pseudodiverticula within the oesophageal wall measuring 1-4 mm in length and 1-2 mm in width, The number of pseudodiverticula varies from less than 5 to over 20. EIPD is distributed diffusely in 60% of patients and segmentally in 40% (upper 14%, middle 14%, and lower 12%) of patients[1]. These pseudodiverticula are dilated excretory ducts of submucosal glands[2,3], which may result from chronic oesophageal inflammation or hypermobility causing submucosal duct compression[4].

Although EIPD was first described by Mendl et al. in 1960[5], only around 100 cases have been documented in the literature post-2000, making it an exceptionally rare condition[6]. The clinical presentation may vary, but dysphagia is the most common symptom. EIPD is frequently associated with various conditions including diabetes mellitus, oesophageal candidiasis, gastroesophageal reflux disease, and chronic alcoholism[7,8] EIPD is most common in men in their sixties and seventies[9,10].

EIPD is frequently associated with the formation of oesophageal strictures, which can further exacerbate dysphagia. These strictures often occur in proximal locations of the oesophagus[11]. In rare cases, EIPD can lead to oesophageal perforation, which may result in pneumomediastinum. Some studies suggest an association between EIPD and an increased risk of oesophageal carcinoma. While the direct causal relationship is not fully established, periodic surveillance for oesophageal cancer in EIPD patients is often advised[11]. Since most EIPD cases are benign, the mainstream treatment is symptom relief by endoscopic dilatation or medical treatment of accompanied diseases[9,12]. This case report details the presentation, diagnosis, and management of a 45-year-old male patient with EIPD.

CASE DESCRIPTION

A 45-year-old male presented to our gastroenterology clinic with a 10-month history of progressive dysphagia, initially to solids and subsequently to both solids and liquids. He reported occasional chest discomfort and a sensation of food lodging in the mid-oesophagus. The patient denied weight loss, regurgitation, or hematemesis, or melena. His medical history was unremarkable, with no diabetes mellitus, autoimmune disorders, or previous oesophageal pathology. He was a non-smoker and non-alcoholic and was not on any regular medications. Physical examination showed vital signs within normal limits, normal oral cavity examination, no palpable cervical lymphadenopathy, and unremarkable abdominal and chest examination.

Initial esophagogastroduodenoscopy (EGD) revealed multiple small mucosal openings throughout oesophageal wall consistent with pseudodiverticula *(Fig. 1)*. Mild esophagitis was noted without strictures or erosions, and the gastric and duodenal mucosa appeared normal. Biopsies were obtained from oesophageal pseudodiverticula and normal-appearing mucosa.

Histopathological analysis showed chronic esophagitis without dysplasia, no evidence of eosinophilic infiltration, malignancy, or candidal infection. The pseudodiverticula exhibited submucosal gland duct dilation.

Barium oesophagography demonstrated multiple flask-like projections extending from the oesophageal lumen with no strictures or filling defects, and normal oesophageal motility. Oesophageal manometry revealed normal oesophageal

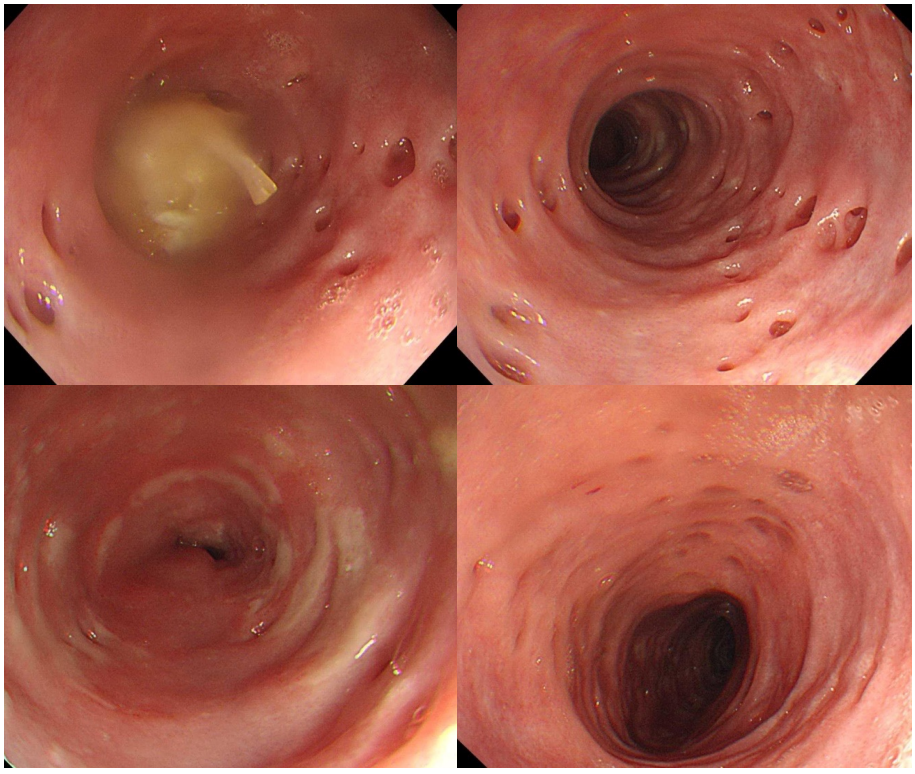


Figure 1. Multiple esophageal pseudodiverticula.

Category	Value	Reference range
LES		
LESP (mid resp.) (mmHg)	15	10-45
Total length (cm)	1.8	-
Median IRP (mmHg)	6	≤20
EGJ morphology	Type I	-
Lower oesophageal body (liquid: 9 swallows) Chicago classification metrics		
Chicago classification metrics		
Normal DCI (450-8000) (%)	100	-
Mean DCI (mmHg×s×cm)	2263	450-8000
Ineffective (%)	0	<50
Hypercontractile (DCI > 8000) (%)	0	<20
Premature (DL <4.5) (%)	0	<20
Panesophageal (%)	0	≤0
Pattern classification	Normal oesophageal motility	
Conventional metrics		
DEA (mmHg)	130	≤220
Peristaltic (%)	100	≥80
Ineffective (%)	0	<50
Simultaneous (%)	0	<20
Retrograde (%)	0	-
Non-Transmitted (%)	0	<20
Impedance		
Distal baseline impedance (ohms)	663	-
Complete transit (liquid: 9 swallows) (%)	100	≥80

Abbreviations: LES, lower oesophageal sphincter; IRP, integrated relaxation pressure; EGJ, esophagogastric junction; DCI, distal contractile integral; DEA, distal oesophageal amplitude.

Table 1. High-resolution esophageal manometry findings.

motility pattern with lower oesophageal sphincter (LES) pressure of 15 mmHg (normal: 10-45), effective peristalsis at 100%, and no evidence of achalasia or spastic disorders *(Table 1)*. Twenty-four-hour pH monitoring showed a DeMeester score of 18.6 (normal: <14.7), indicating mild acid reflux. Laboratory testing including complete blood count, fasting glucose (5.8 mmol/l), HbA1c (5.4%), thyroid function tests, and human immunodeficiency virus serology were all within normal limits.

Follow-up EGD at 6 months demonstrated stable appearance of the numerous pseudodiverticula with no progression and no new findings. The patient received conservative management with a proton pump inhibitor, dietary modifications including smaller and more frequent meals while avoiding liquids with meals, and education regarding symptom management. A follow-up protocol was established with outpatient clinic reviews every 3 months, repeat EGD at 12 months, and instructions to report any new symptoms immediately.

Over 12 months of follow-up, the patient experienced significant improvement in dysphagia – from daily to occasional episodes, reduced chest discomfort, stable weight, and no development of complications.

DISCUSSION

EIPD is a rare cause of dysphagia, and its aetiology is not entirely understood. It is thought to result from chronic inflammation and obstruction of the excretory ducts of the oesophageal submucosal glands. The condition is often associated with esophagitis and oesophageal motility

disorders, which can contribute to the patient's symptoms. The absence of significant strictures or masses on endoscopy was important in excluding other causes of dysphagia in our patient. Although EIPD is commonly associated with diabetes mellitus and autoimmune diseases, our patient exhibited none of these risk factors, representing a less common presentation[12]. This case illustrates several key aspects of EIPD management. Our comprehensive evaluation excluded important differential diagnoses including achalasia, oesophageal strictures, eosinophilic esophagitis, and malignancy. The combination of endoscopy, biopsy, manometry, and pH monitoring provided a complete functional assessment and helped exclude other aetiologies. The stable clinical course aligns with most reported cases where EIPD follows a benign trajectory. However, vigilance for complications remains essential. EIPD, though rare, is an important differential in patients with chronic dysphagia. Its recognition prevents unnecessary interventions and guides appropriate management. Conservative management remains the mainstay of therapy, focusing on treating associated esophagitis, addressing strictures, and managing symptoms. In our case, acid suppression addressed the mild reflux component, dietary modifications helped manage mechanical symptoms, and regular follow-up ensured early detection of potential complications.

Our patient responded well to treatment with proton pump inhibitors to reduce acid reflux and oesophageal irritation. Dietary modifications were recommended, including eating smaller, more frequent meals and avoiding foods that could exacerbate symptoms. The patient was advised to seek follow-up if symptoms worsened, or new symptoms developed. The patient responded well to conservative management, with a significant reduction in dysphagia and discomfort. Follow-up after one year showed stable symptoms with no disease progression on repeat imaging.

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