

Heterotopic Gastric Mucosa presenting as Oesophago-Pleural Fistula and Hydropneumothorax.

G. J. Pandya*, V.G. Shelat**

Departments of Tuberculosis and Chest Diseases* & Surgical Gastroenterology**
B J Medical College and Civil Hospital, Ahmedabad, India

Abstract: Heterotopic gastric mucosa (HGM) can occur in any segment of gastrointestinal tract and can cause ulceration, stricture, erosions polyp, pulsion diverticulum, bleeding, aspiration and fistula. HGM presents in middle third of oesophagus causing an oesophago-pleural fistula and presenting as acute hydropneumothorax is perhaps yet unreported. We present an elderly female with such presentation and a brief review of literature.

Keywords: Heterotopic gastric mucosa, Oesophago-pleural fistula, Hydropneumothorax

INTRODUCTION

Oesophagus is an anatomical novelty due to its strategic tricompartamental location and lack of a serosal layer. This makes it vulnerable to a pathological insult; may it be due to disease or iatrogenic injury. Ectopic columnar epithelium can line oesophagus either as a congenital anomaly (HGM) or an acquired pathology as in Barrett's oesophagus (metaplastic gastric mucosa). Presence of HGM in gastrointestinal system is a common and benign anomaly. Heterotopic gastric mucosal patch may lead to important complications in relation to acid secretion which may vary according to the parietal cell mass. Peptic perforation of the hollow viscus is an important acute complication of HGM. Thoracic oesophageal perforations have a high mortality.

CASE REPORT

A 75 yr old previously fit and healthy female presented to a local facility with an acute onset of shortness of breath. She was managed conservatively with oxygen, bronchodilators, antibiotics and intravenous fluids for one day suspecting obstructive airway disease. She deteriorated and was referred to tertiary care hospital. On examination, she was febrile, had tachycardia, was tachypnoeic and hypotensive. Her chest revealed absent air entry in right lower and mid zone. Chest X-ray (CXR) confirmed the clinical findings of right hydropneumothorax. She was resuscitated and a chest drain was inserted. Two hundred and fifty millilitres of greenish pus was drained. She did not improve despite maximal physiological support. Over the next 24hours the chest drain revealed food particles. CT scan thorax showed middle third oesophago-pleural fistula with hydropneumothorax (Fig. 1). Oesophagogastrosocopy revealed middle third oesophageal fistula that was confirmed to be communicating with pleura by further dye studies (Fig. 2). Gastric biopsy was negative for *Helicobacter pylori* infection. She declined surgery and was managed conservatively in high dependency unit with broad spectrum antibiotics, intravenous fluids, analgesics and chest physiotherapy. She deteriorated despite maximal support and succumbed within 48hours of presentation to hospital. Histology (received post-mortem) from the fistula revealed fundic type of gastric mucosa with chronic inflammatory cell infiltrate confirming the presence of HGM (Fig. 3).

DISCUSSION

Heterotopia refers to microscopically normal cells or tissues present elsewhere than expected. HGM occurring in upper oesophagus is



Fig.1: Middle third oesophago-pleural fistula on right side

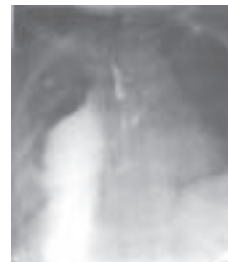


Fig. 2: Barium swallow showing Oesophago-pleural fistula with hydropneumothorax and chest drain in-situ

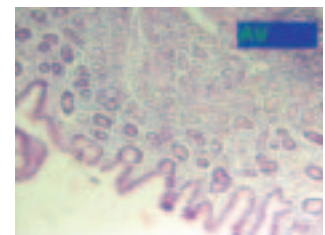


Fig. 3: Fundic type gastric mucosa with chronic inflammatory cell infiltrate

termed as inlet patch. Schmidt, from post-mortem examinations, first described gastric mucosal epithelium lining the oesophagus about 200 yrs ago.¹ HGM occurs as a flat island or islands of rose-salmon velvety mucosa within the oesophagus and probably represents a congenital abnormality. There are various theories to propose and explain the presence of HGM.^{2,3} The congenital theory makes upper and lower oesophagus most likely to harbour HGM. Heterotopic mucosal patches can be single or multiple, round/oval or irregular and can vary from few millimetre to up to 2cm. Commonly the patches are longitudinally oriented, found on the posterior or lateral wall and just below the upper oesophageal sphincter. Akbayir et al report an endoscopic prevalence of 1.67% with female predominance⁴ while Takeji H et al report a radiologic prevalence of 2.4% with male predominance.⁵ Maconi G et al quote that frequency of endoscopic detection is likely to increase with awareness of the endoscopist.⁶ In a prospective study of 33 cases, E Jacobs et al report 4.9% prevalence of heterotopic columnar epithelium in proximal oesophagus without sex predilection.³ The clinical relevance of this entity is controversial

Correspondence: Dr V.G.Shelat, 56, Kameshwar Park Society, Ghodasar Canal, Ghodasar, Ahmedabad – 380050, India

E-mail: vgshelat@gmail.com

and causal relation to certain symptoms by mere endoscopic or radiologic detection is debatable. HGM is usually asymptomatic and detected by routine workup for upper gastrointestinal complaints due to Barrett's oesophagus, oesophagitis or gastritis. However, it can present with a variety of symptoms and poses a diagnostic challenge to the most astute clinician. HGM is not a pre-malignant condition unlike Barrett's esophagitis. Von Rahden BH et al⁷ have proposed a clinicopathologic classification of HGM and accordingly, our patient presented with Type III HGM in mid esophagus.

It is usually accepted that up to 10% of patients may have complaints related to the presence of HGM, acid secretion, increased tone and spasm. There is an anecdotal supporting evidence of causal association with oesophagitis due to high prevalence of *Helicobacter pylori* infection.^{4,6} *Helicobacter pylori* is orally transmitted and hence acid producing parietal cell mass of HGM becomes an important site due to its proximal location and first portal of contact. Thoracic oesophageal perforations have a high mortality and require aggressive and definite surgery. Conservative management has a role in micro-perforations with a contained and controlled leak. Surgery can range from reinforced primary repair, resection and reconstruction, diversion and oesophagectomy. Our patient declined surgery and never improved from septic shock despite maximal support and died before any intervention.

HGM present in middle third of oesophagus causing oesophageal perforation with oesophago-pleural fistula presenting as acute hydropneumothorax is probably yet unreported. Clinicians should be aware of this rare complication occurring in patients harbouring HGM to institute timely and aggressive intervention.

REFERENCES

1. *Schmidt FA. De Mammalian Esophago atque ventriculo. (Inaugural-Dissertation). Halle, in off. Batheana; 1805.*
2. *Johns BAE. Developmental changes in the oesophageal epithelium in man. J Anat 1952; 86: 431-42.*
3. *Jacobs E, Dehou MF. Heterotopic gastric mucosa in the upper oesophagus: a prospective study of 33 cases and review of literature. Endoscopy 1997; 29: 710-5.*
4. *Akbayir N, Alkim C, Erdem L, Sokmen HM, Sungun A, Basak T, Turgut S, Mungan Z. Heterotopic gastric mucosa in the cervical esophagus (inlet patch): endoscopic prevalence, histological and clinical characteristics. J Gastroenterol Hepatol. 2005; 20: 1308-9.*
5. *Takeji H, Ueno J, Nishitani H. Ectopic gastric mucosa in the upper esophagus: prevalence and radiologic findings. Am J Roentgenol. 1995; 164: 901-4.*
6. *Maconi G, Pace F, Vago L, Carsana L, Bargiggia S, Porto GB. Prevalence and clinical features of heterotopic gastric mucosa in the upper oesophagus (inlet patch). Eur J Gastroenterol Hepatol. 2000; 12 :745-9.*
7. *Von Rahden BH, Stein HJ, Becker K, Leibermann-Meffert D, Siewert JR. Heterotopic gastric mucosa of the esophagus: literature review and proposal of a clinicopathologic classification. Am J Gastroenterol. 2004; 99: 543-51.*

Dependable Anti-Diabetic Care

Diapride

Glimepiride 1mg/2mg/4mg tablets

Dibizide-M

Glipizide 5mg+Metformin 500mg tablets

Melmet

Metformin 500mg tablets

Rosinorm

Rosiglitazone 2mg & 4mg tablets

Rosinorm-G

Rosiglitazone 2mg+Gliclazide 80mg tablets

Diapride Plus

Glimepiride 1mg+Metformin 500mg tablets

Diapride Forte

Glimepiride 2mg + Metformin 500mg tablets

Rosinorm-M

Rosiglitazone 2mg + Metformin 500mg tablets

For further information please write to :



MICRO LABS LIMITED

No. 3, Queen Road, Bangalore-560001.

email : micropmt@microlabsltd.com