Case Report

Large Hiatal Hernias Remain a Challenging Condition in Clinical Practice

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Abstract

Hiatus hernia is a very common condition in elderly patients. Most common type is sliding hiatus hernia (type I) with incidence of up to 95% of all hiatus hernias. Although, they are usually asymptomatic, several complications can occur from gastroesophageal reflux to bleeding as the most severe complication. An 81-year old male was admitted to the emergency department with melena, general weakness and dyspnea and medical history of mitral valve replacement, atrial fibrillation and absolute arrhythmia, as well as chronic obstructive pulmonary disease. Urgent upper GI endoscopy showed two ulcers of the distal esophagus, as well as a hyperemic, edematous mucosa of proximal stomach probably as a result of local stasis. Additional contrast radiography showed a large axial hiatus hernia, which constituted of 2/3 of the stomach in the mediastinum. CT scan of thorax and abdomen confirmed previous findings, with the additional finding of a supressed heart and lungs and consequential bilateral pleural effusions. Although bleeding was stopped with conservative medication therapy, cardiorespiratory difficulties remained. Patient underwent open transabdominal hiatal hernia repair which included retraction of the stomach back into the abdomen, closure of the hiatal pillars and a Nissen fundoplication. Besides an episode of transient anxiety and agitation, postoperative course was uneventful. Patient was discharged from hospital on the 9th postoperative day. Although the asymptomatic sliding hernia does not necessarily require surgical treatment, if severe complication such as bleeding and worsening cardiorespiratory morbidity occurs, surgery must be done without any further delays.

INTRODUCTION

The incidence of hiatus hernia rises with age [1]. Given the rising demographics and the growing number of endoscopies, this condition now constitutes an increasingly common endoscopic finding. Most common type is sliding hiatus hernia (type I) with incidence of up to 95% of all hiatus hernias, while different forms of paraesophageal hernias are less common (type II, III, and IV). Although they are typically asymptomatic, several complications can occur including gastroesophageal reflux disease, iron deficiency anemia, ulcer or erosion formation, and acute or chronic bleeding [2]. Several cases were reported in which large hiatal hernias were compromising cardio respiratory function, and they were misdiagnosed [3-5].

We present a case of large sliding hiatal hernia that was causing bleeding from the upper GI and worsening cardiorespiratory morbidity.

CASE REPORT

An 81-year old male was admitted to the emergency department with clinical signs of upper GI bleeding, presented with history of 48h of melena, general weakness and dyspnea without abdominal pain.

Medical history was significant for cardiopulmonary comorbidity because of mitral valve replacement, atrial fibrillation and absolute ventricular arrhythmia, as well as chronic obstructive pulmonary disease. Also, several years before, the patient underwent right inguinal hernia repair and open cholecystectomy.

On admission, physical examination showed tender, painless abdomen and melena during rectal exam, blood pressure of 130/65 mm Hg, tachycardia (132 beats/min) and dyspnea. Blood tests showed haemoglobin (Hgb) level of 129 g/L, INR level of 1.29 g/L, INR level of 2.01, and signs of dehydration (low levels of basic serum electrolytes - sodium 130 mmol/L and chloride 94.2 mmol/L, while potassium level was normal), and electrocardiogram showed atrial fibrillation and absolute arrhythmia.

The patient underwent urgent upper GI endoscopy which showed two ulcers of the distal esophagus, as well as a hyperemic, edematous mucosa of stomach probably as a result of local stasis. There was a suspicion on sliding hiatus hernia, but it could not be clear because of much undigested food in stomach. No anamnestic data were provided about alcohol abuse or liver disease. With the oral intake suspension, rehydration with intravenous cristaloïd solutions and PPI therapy, the bleeding stopped, but in spite of antiarrhythmic, β-blocker and brochodilator therapy, cardiorespiratory difficulties remained. Additional diagnostics were done. Barium contrast radiography showed a large axial hiatal hernia, which constituted of 2/3 of the stomach in the mediastinum. CT scan of the thorax and abdomen corroborated previous findings, with the additional finding of a supressed heart and lungs and consequent bilateral pleural effusions. Although bleeding was stopped with conservative medication therapy, cardiorespiratory difficulties remained. Patient underwent open transabdominal hiatal hernia repair which included retraction of the stomach back into the abdomen, closure of the hiatal pillars and a Nissen fundoplication. Besides an episode of transient anxiety and agitation, postoperative course was uneventful. Patient was discharged from hospital on the 9th postoperative day. Although the asymptomatic sliding hernia does not necessarily require surgical treatment, if severe complication such as bleeding and worsening cardiorespiratory morbidity occurs, surgery must be done without any further delays.

bilateral pleural effusions. Heart ultrasound revealed moderate aortic valve stenosis, hypertrophy of ventricular walls, increased right atrial pressure and preserved global ejection fraction of 55%. Indication for surgery treatment of hiatal hernia was made.

After adequate preoperative treatment, open transabdominal hiatal hernia repair was made, which included retraction of the stomach back into the abdomen, closure of the hiatal pillars and a Nissen fundoplication.

In the early postoperative course, there was an episode of transient anxiety and agitation as a known consequence of general anesthesia in elderly patients. Further postoperative course was uneventful. Gradually, oral intake was established with no signs of recurrent upper GI bleeding, and with no maldigestion symptoms. A control barium study showed clean passage of the contrast into the duodenum, and confirmed clinical findings. With regular bronchodilator therapy, the symptoms diminished, bilateral pleural effusion withdrew, while the registered arrhythmia was under control with antiarrhythmic and β-blocker therapy. The patient was discharged on the 9th postoperative day.

DISCUSSION

The first report of hiatal hernia was published in 1853 by Bowditch. Rokitansky in 1855 demonstrated that esophagitis was due to gastroesophageal reflux, and Hirsch in 1900 diagnosed an hiatal hernia using x-rays. Eppinger diagnosed a hiatal hernia in a live patient, and Friedenwald and Feldman related the symptoms to the presence of a hiatal hernia. In 1926, Akerlund proposed the term hiatus hernia and classified them into the 3 types [6]. According to SAGES (Society of American Gastrointestinal and Endoscopic Surgeons) [7], today there are 4 types:

- type I: sliding HH: axial ascension of the gastric cardia through the hiatus;
- type II: para-esophageal HH: upward rolling of the gastric fundus past a normally positioned cardia;
- type II: mixed HH: ascension of the cardia plus para-esophageal rolling of the fundus;
- type IV: herniation of the transverse colon drawn upward by by the herniated gastric fundus or some other abdominal organ.

Type I or sliding – axial hiatus hernia is the most common type with the incidence of up to 95%, and is often asymptomatic. But when symptoms occur, gastroesophageal reflux is the most common one. It is important to point out that gastroesophageal reflux disease (GERD) is more common in sliding hiatal hernia, but can occur in paraesophageal types of hernia as well. Bleeding from the herniated fundus of the stomach, can lead to the formation of mucosal ulcers, known as Cameron lesions that can produce iron-deficiency anemia. Regardless of mechanism, many patients with hiatus hernia have other non-specific symptoms, such as postprandial chest pain, postprandial fullness, and shortness of breath. Finally, in some cases, the patient can be presented with an acute surgical condition, which is caused by strangulation of the stomach from acute gastric volvulus. These patients retch but cannot vomit, and a nasogastric tube cannot be passed into the stomach [8]. Also, giant hiatus hernias can worsen cardiac and respiratory function, especially in patients with cardiorespiratory comorbidity [9].

The diagnosis of hiatal hernia can be made through radiographic, endoscopic and manometric assessment. Whereas large hiatal hernias can be detected and diagnosed without difficulty using either of these methods, diagnosing small hiatal hernias can be challenging with each modality having its limitations. Additionally, CT scan may be done if complications occur [10]. Bleeding complications arise in 1/4 of patients with hiatal hernia and GERD, and cause up to 10% of all acute and 1/3 of all chronic foregut bleedings. Most common bleeding disorders directly related to hiatal hernia and GERD are: hiatal hernia ulcers, erosive esophagitis, esophageal ulcers, peptic strictures and Barrett esophagus [2].

The presence of hiatus hernia is not an indication for treatment, and therapy should be given to patients with symptoms attributable to this condition. Since GERD is the most common clinical manifestation in patients with hiatal hernia, lifestyle modifications (weight loss, elevation of head in supine position, etc.) should be encouraged and medications (antacids, prokinetics, H2-receptor antagonists and proton pump inhibitors) should first be prescribed to the symptomatic patients, with acid suppression using proton pump inhibitors being the cornerstone of therapy [11].
Unlike paraesophageal hiatal hernias that need surgical repair even in the absence of symptoms due to its potential for development of complications such as bleeding, incarceration, obstruction and perforation, isolated sliding hiatal hernias itself usually do not require surgical treatment [8]. However, surgical therapy (either open or laparoscopic) could be given to hiatal hernia patients with severe and refractory GERD symptoms based on the generally accepted indications for antireflux surgery: poor compliance to long-term medical therapy, requirement of high doses of drugs and young patients wishing to avoid lifetime medical treatment. In addition, hiatal hernia patients can also resort to surgery if they develop complications such as recurrent bleeding, ulcerations, strictures, etc [12,13]. Surgical management should envelope both the correction of hiatal hernia by restoring the intra-abdominal esophagus and reconstructing the diaphragmatic hiatus, and reinforcement of the LES by antireflux procedure with Nissen fundoplication being the most frequently employed measure [8].

REFERENCES


