



ORIGINAL RESEARCH PAPER

Oncology

POST ESOPHAGECTOMY DIAPHRAGMATIC HERNIA PRESENTING AS BOWEL OBSTRUCTION – A RARE CASE REPORT.

KEY WORDS: Hiatus Hernia, Esophagectomy, Post-operative , Bowel Obstruction.

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ABSTRACT
 Hiatus hernia is rare after esophagectomy and due to its rarity overlooking this differential in a symptomatic patient can be problematic. Patients can present with recurrent pneumonia, reflux and in the few case small bowel obstruction. Surgery has been the mainstay of treatment for symptomatic hiatus hernias. We present a case of a mechanical small bowel obstruction occurring at the esophageal hiatus in a patient two years after Mc-Keown's esophagectomy. Patient underwent emergency exploratory laparotomy with resolution of small bowel obstruction and persistent hiatus hernia. Complications of these hernias with mechanical small bowel obstructions are even less described in the current literature. It is important to recognize hiatus hernias as potential cause of obstructive symptoms after esophagectomy. While surgical intervention may be inevitable in certain population of patients. High index of clinical suspicion needs to be maintained in clinical practice.

INTRODUCTION

Hiatus hernia is rare after three stage esophagectomy occurring in less than 2% of patients [3]. Due to the rare incidence of hiatus hernias after esophagectomy this can be neglected as a potential differential for symptomatic patients. Patients may presents with recurrent pneumonia, complaints of reflux, and in the case presented small bowel obstructions. Surgical adhesions at the esophageal hiatus as well as surgical reconstruction of the hiatus are thought to be protective

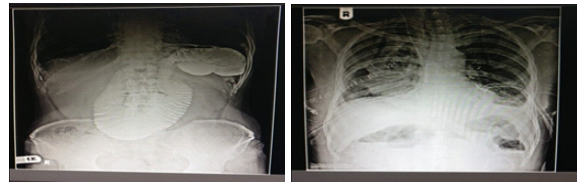
against the development of hiatus hernias after esophagectomy. Small bowel obstructions within the hiatus hernia are rarely described in the current literature. This poses a complicated treatment plan for these patients especially if the patient is a poor surgical candidate due to comorbidities or malnourishment. Surgery has been the mainstay of treatment for symptomatic hiatus hernias.

CASE PRESENTATION

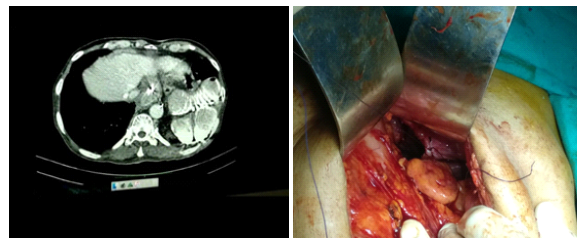
The 66-year-old patient was admitted to our department with a diagnosis of squamous cell carcinoma of the middle and the lower thirds of the esophagus. Three Stage esophagectomy (Thoracotomy, laprotomy and cervicotomy) with extended two-field lymphadenectomy were performed. Histopat ogy examination revealed tumour to be pT3N0 and high grade which is Stage IIA. The postoperative course was uneventful, patient was discharged on pod 8 and was on routine follow up since then. However 2 years post surgery , patient developed symptoms of constipation and post prandial fullness on and off over a period of three months. The symptom occurred in the supine position and resolved upon standing. Compression of the stomach conduit by the colon protruding into the mediastinum through the esophageal hiatus was confirmed with computed tomography (Figs. 1 A-D). A decision was made to perform a reoperation using a laparotomy approach; Intra operatively we found the transverse colon (partial) with the small bowel had herniated through the enlarged hiatus and migrated inside the left pleural cavity (Figure 1 C). There were no adhesions between the bowel loops and the surrounding structures. The small bowel and transverse colon were carefully relocated into the abdominal cavity, plasty of the hiatus was performed, and the

colonic mesentery was stabilized. The postoperative course was uneventful.

Fig. 1
AB



CD



A – Barium meal-ray examination with contrast, performed – normal view. B) chest X-ray examination showing complete restoration.

C – Axial computed tomography (CT) image: the bowel loops protruding into the mediastinum and left pleural cavity. D – Intra operative photograph showing repaired hernia defect.

DISCUSSION

The risk factors for the development of hiatus hernia include intraperitoneal pressure exceeding thoracic pressure and distension of the esophageal hiatus [1, 3, 4, 6, 9]. Postoperative hiatus hernias occur more often after minimally invasive (2.7–26%) or robotic (up to 19.4%) esophagectomy than after conventional procedures because of less adhesion from open surgery in comparison to minimally invasive procedures. [1, 2, 5, 6, 8] Post esophagectomy Diaphragmatic hernia can occur

in early postoperative period or emerge as a late complication. Patients may be asymptomatic with incidentally detected radiographic evidence during routine surveillance or may present with non-specific clinical finding[10] Symptoms of respiratory distress, chest pain, intestinal obstruction may be seen in acute setting[6,11] Surgical repair is recommended for early symptomatic cases. Corrective surgery consists of hernia reduction and diaphragmatic crura repair. Options being primary repair or mesh prosthesis. If there is enough laxity to perform tension free repair , primary repair without mesh is preferred[12]. Incidence of Diaphragmatic hernia following open esophagectomy are lower compare to minimally invasive procedure[13]. Various reasons cited in literature are lack of adhesion[11], more extensive dissection owing to laparoscopic vision[14], abdominal insufflations causing distortion and prolonged pneumoperitoneum[1]. Also rate being higher in post neoadjuvant therapy due to more extensive perihilar dissection[14]. As caudate and left lobe of liver block right side of hiatus , herniation occurs more commonly on left side[14,15].

In presented case, the displaced organ was small bowel with transverse colon. In our opinion, the transverse colon is more susceptible to displacement when freed during the skeletonization of the greater gastric curvature, Kocher's maneuver, and potential omentectomy than intestinal loops.[3,4,6].The treatment of choice in such cases is surgical intervention. The abdominal approach is preferred, with a growing frequency of laparoscopy [1,2,4, 5,8]. In the event of technical difficulties, additional thoracic access or even typical posterolateral thoracotomy may be required [7].

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