



## Hiatal hernia as a late complication after gastrectomy

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### Abstract

**Introduction:** Hiatal hernia is an extremely rare complication after total gastrectomy.

**Case presentation:** An 80-year-old man presented with acute abdominal pain, vomiting, and orthopnoea. He had a history of total gastrectomy with a Roux-en-Y reconstruction five years before. An abdominal computed tomography scan revealed a right hemithorax herniation with small bowel occlusion. Exploratory laparotomy showed volvulus of the small intestine in the hiatal hernia.

**Conclusions:** Hiatal hernia is a rare complication after gastrectomy but early detection and treatment are important to avoid dismal outcomes.

### Keywords

Hiatal Hernia; Total Gastrectomy; Gastric Cancer

### Introduction

Hiatal hernia as a complication of a total gastrectomy is extremely rare and only 4 cases are cited in published reports [1,2,3,4]. We present a case of a patient who developed ileus 5 years after total gastrectomy caused by volvulus of the herniated small intestine in a hiatal hernia.

### Presentation of case

An 80-year-old, 26,4 BMI male presented with severe epigastralgia, vomiting, and orthopnoea to our Emergency Department. The patient was 5 years before affected by a poorly differentiated (G3), Stadium IIb pT3, pN1, Mo (TNM staging, AJCC 7th edition, 2010) diffuse-type gastric adenocarcinoma and he was treated with neoadjuvant chemotherapy

with Cisplatin and 5-FU and D2 gastrectomy in another hospital. 3 years after the gastrectomy underwent an emergency exploratory laparotomy by ileus in our hospital. Small bowel adhesions and twisting of the Roux en Y afferent loop was encountered during the operation. The patient had adhesiolysis received and the afferent loop proximal to the twisting was transected and a new end-to-side jejunojejunostomy was performed.

The abdominal examination was remarkable for tenderness in the right upper quadrant. The laboratory workup revealed a slight elevation of white blood cell count and CRP. Multidetector CT (MDCT) (**Fig-1**) revealed a small intestinal herniation through the diaphragm to the right hemithorax with distended small bowel loops. Contrast radiography

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with gastrograffin of the upper gastrointestinal tract showed clustering of small bowel loops and distended small bowel loops in a prominent diaphragmatic hernia.

Elective laparotomy was performed via an extended upper midline incision. Once adhesions from

the previous surgery were taken down and the free peritoneal cavity was entered a large hiatal defect along the right hiatal opening with intestinal volvulus was detected. The small bowel was reduced into the abdominal cavity and a posterior crural repair using interrupted o Prolene suture with biologic mesh reinforcement was performed. The postoperative



**Fig-1:**

a) (CT) demonstrate a prominent transhiatal hernia bowel loops within the right hemithorax,



b) coronal section demonstrate the distended small bowel loops in the hiatal hernia.

course was uneventful and the patient was discharged from the hospital.

## Discussion

Hiatal hernia occurs often after esophagectomy with incidence between 5-10% according to recent studies [5,6]. Lower BMI, transhiatal esophagectomy and minimally invasive esophagectomy were associated with higher incidence of postoperative hiatal hernia and the majority of cases (91%) were located in the left chest [5,7].

A postoperative hiatal hernia after total gastrectomy is a very rare complication and there are only 4 cases published in the literature. In the previous cases, all the hernias occurred as an early postoperative complication, unlike our patient who became symptomatic 5 years after the gastrectomy [1,2,3,4]. The enlargement of the hiatus during transhiatal esophagectomy and the over-extension of the hiatus in MIE make the patients prone to hiatal hernia, which may also occur in gastrectomy.

Increased mobility of the intraabdominal structures could explain the higher incidence of hiatal hernia in lower BMI patients, however, our patient's BMI was 26,4.

The diagnosis of small intestine volvulus in a hiatal hernia after gastrectomy is challenging because the symptoms are generally nonspecific. Abdominal pain with tenderness and vomiting indicates bowel obstruction. As the condition worsens, patients may develop mediastinitis which worsens the prognosis. Early diagnosis with CT and intervention is important to decrease the mortality rate, especially when the condition develops acutely. Emergent laparotomy is strongly indicated. Some authors suggest the hiatal repair without mesh because it is not always necessary and it may potentially erode into the esophagus. We used in our case biological mesh to enhance the strength of the hernia repair because the tension was too great for primary repair of the hiatus.

In conclusion, hiatal hernia is a rare complication

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after gastrectomy. Although rare, it is important for surgeons to recognize this complication and to provide the appropriate treatment. The diagnosis is fairly obvious from a chest radiograph and is clearly seen with computed tomography. We recommend that these hernias be repaired unless the patient's comorbidities and performance status preclude surgical intervention.

## References

- [1] Murata S, Yamazaki M, Kosugi C, Hirano A, Yoshimura Y, Shiragami R, Suzuki M, Shuto K, Koda K. Hiatal hernia following total gastrectomy with Roux-en-Y reconstruction. *Hernia.* 2014;18(6):889-91. [PMID: 23918277]
- [2] Piciucchi S, Milandri C, Verdecchia GM, Framarini M, Amadori E, Monti M, Oboldi D, Bandi G, Barone D, Gavelli G. Acute hiatal hernia: a late complication following gastrectomy. *Int Arch Med.* 2010 Oct 4;3:23. [PMID: 20920326]
- [3] Santos Bdo N, de Oliveira MB, Peixoto RD. Hiatal Hernia as a Total Gastrectomy Complication. *Case Rep Oncol.* 2016 Feb 6;9(1):100-5. [PMID: 27293395]
- [4] Gonzalo MA, Almeida H, Güemes A. Hiatal herniation following total gastrectomy. *Rev Esp Enferm Dig.* 2016 Apr;108(4):234. [PMID: 26911996]
- [5] Brenkman HJ, Parry K, Noble F, van Hillegersberg R, Sharland D, Goense L, Kelly J, Byrne JP, Underwood TJ, Ruurda JP. Hiatal Hernia After Esophagectomy for Cancer. *Ann Thorac Surg.* 2017 Apr;103(4):1055-62. [PMID: 28267979]
- [6] Matthews J, Bhanderi S, Mitchell H, Whiting J, Vohra R, Hodson J, Griffiths E. Diaphragmatic herniation following esophagogastric resectional surgery: an increasing problem with minimally invasive techniques? : Post-operative diaphragmatic hernias. *Surg Endosc.* 2016 Dec;30(12):5419-27. [PMID: 27105617]
- [7] Gooszen JAH, Slaman AE, van Dieren S, Gisbertz SS, van Berge Henegouwen MI. Incidence and Treatment of Symptomatic Diaphragmatic Hernia After Esophagectomy for Cancer. *Ann Thorac Surg.* 2018 Jul;106(1):199-206. [PMID: 29555244]

