

Total Laparoscopic Approach for a Gastric Tumor Associated With an Old and Huge Hiatal Hernia

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Abstract

The combination of gastric tumor and hiatal hernia is a rare event, that makes management delicate, and the prognosis pejorative given the risk of multidirectional lymphatic dissemination. Through this case report, we present a fully laparoscopic management, in an 80-year-old woman with a gastric tumor of the upper 1/3 of the stomach, associated with a huge hiatal hernia. This lady presented to the emergencies during the period of the Covid 19 pandemic, for dyspnea crisis of progressive worsening. thoraco-abdominopelvic CT showed a huge hiatal hernia explaining its symptomatology. Esogastroduodenal fibroscopy showed a cardia-gastric tumor. A total laparoscopy gastrectomy with lymph node dissection D1.5 associated with a cure of hiatal hernia were performed. The postoperative follow-up was simple and the patient declared outgoing on Day 5 postoperative.

Keywords: Hiatal hernia, Gastric cancer, Laparoscopy, covid 19, adenocarcinoma, Stomach tumor and hernia.

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INTRODUCTION

The laparoscopic approach for gastrectomy is increasingly used in Morocco for the management and treatment of gastric tumors. Hiatal hernia is a condition in which intra-abdominal organs herniate into the chest space through the esophageal hiatus. In adults, weakness in the supporting tissues of the lower esophagus or high pressure associated with a lump and obesity may cause this event. Several reports have presented the usefulness of the laparoscopic approach in hiatal hernia repair [1]. We present here a case in which we used a totally laparoscopic approach in the management of an association of gastric tumor and huge hiatal hernia.

CASE REPORT

An 80-year-old woman without a pathological history was admitted to emergencies for acute dyspnea (COVID19 Wave peak period), suddenly installed, without fever, cough or other associated signs.

The clinical examination of the patient was normal, except polypnea and respiratory discomfort, with a normal infectious blood test (C-reactive protein at 11.4 mg / l), later on, the patient benefited from a covid PCR test income negative, and thoraco-abdominopelvic CT, which showed a large hiatal hernia, with a gastric volvulus intrathoracic and a moderate bilateral pleural effusion (Figure 1).

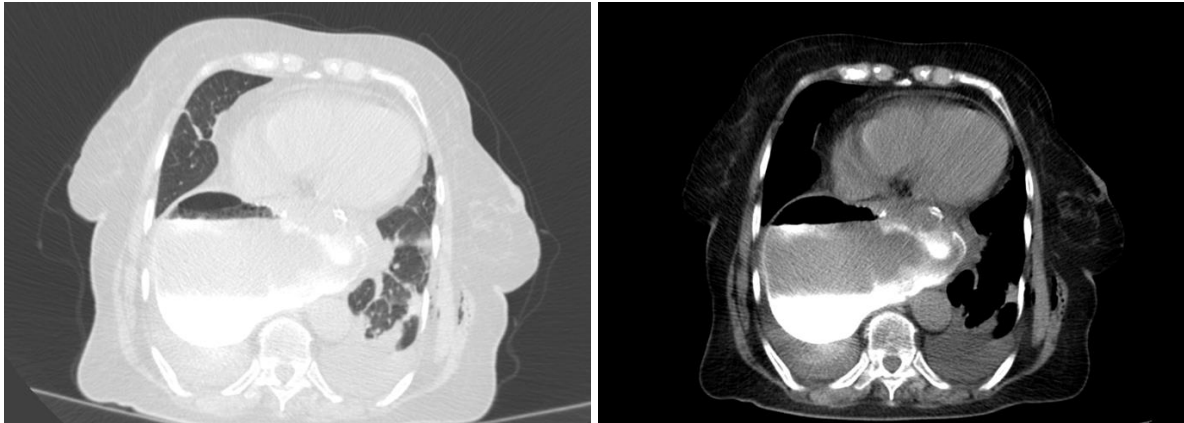


Figure 1: Hiatal hernia, with a gastric volvulus intrathoracic and a moderate bilateral pleuraloesogastroduodenal fibrosis. Fibroscopy found a contorted hiatal hernia associated with a budding ulcerative process of the fundus. The pathological examination revealed a poorly differentiated adenocarcinoma

Our patient was operated on laparoscopically. Under general anesthesia and in supine position, legs apart, arms along the body. We proceeded by an open celio then insufflation of the pneumoperitoneum with

carbon dioxide thereafter introduction of 5 trocars in total including two of 12 mm and three of 5mm (Figure 2). The lateral segment of the left lobe of the liver was retracted to expose the hiatal region.

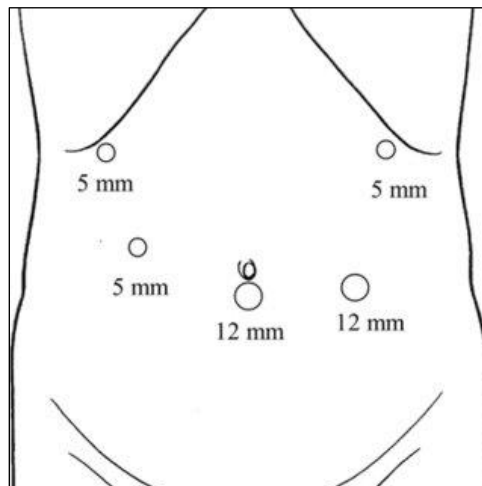


Figure 2: Trocar placement for the laparoscopic completion total gastrectomy

Laparoscopic exploration found a large hiatal hernia with incarceration of the entire stomach, greater omentum and a large part of the transverse colon with a

gastric tumor occupying the upper pole of the stomach, Furthermore, there was no hepatic metastasis or peritoneal carcinomatosis or ascites (Figure 3).

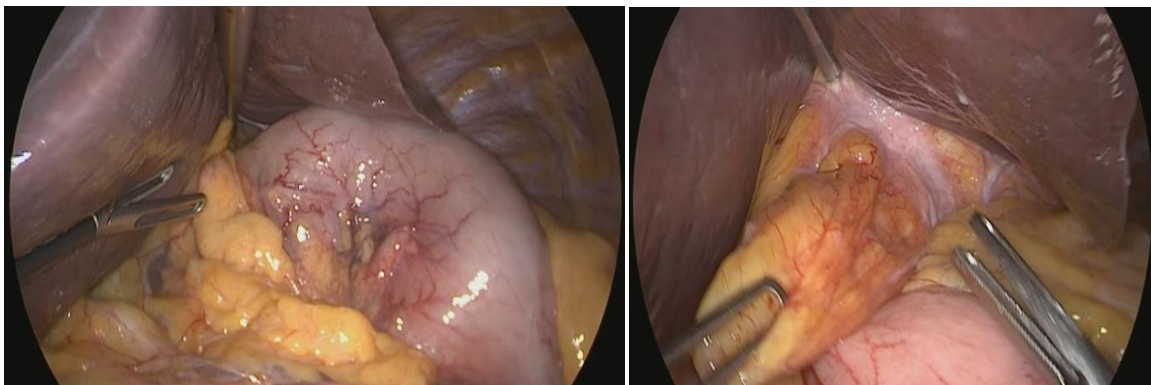


Figure 3: Laparoscopic exploration found a large hiatal hernia with incarceration of the entire stomach, greater omentum and a large part of the transverse colon with a gastric tumor

We started with the hernia cure. A careful dissection of the hernial sac and its was excised, then we brought together the 2 pillars left and right.

Next, a total gastrectomy was performed with D 1.5 lymph node dissection, and the digestive tract continuity was restored by an intracorporeal mechanical lateral oesojunal anastomosis (Figure 4) [3].

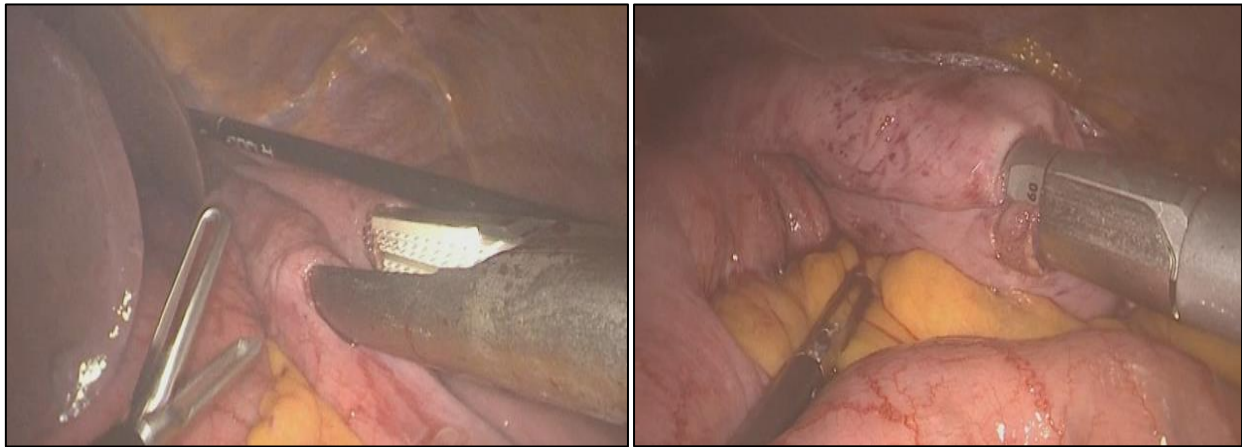


Figure 4: Intracorporeal mechanical lateral oesojunal anastomosis

The operating time was 260 min and the estimated blood loss was 30 ml and the specimen was extracted through a small pfannenstiel incision.

Specimen pathological examination showed a poorly differentiated Adenocarcinoma infiltrating the subserosa with vascular embolus and the 15 lymph nodes examined were negative.

The postoperative follow-up was simple and the patient was fed on the third day and discharged on the fifth day after an effective transit and the disappearance of the initial symptomatology.

A Close follow-up was initiated for this patient. At 09 months after surgery, the patient is still alive and didn't show any recurrence.

DISCUSSION

In 1999, Azagra *et al.* reported the first laparoscopic total gastrectomy for cancer [11]. In the United States, the first group to describe their experience with laparoscopic gastrectomy with curative intent for gastric cancer was Reyes *et al.*, from Mount Sinai Medical Center, in 2001 [12].

Many reports of laparoscopic techniques for cancer resection have shown oncologic equivalency to the open technique, with the known benefits of the minimally invasive approach, such as decreased pain, length of hospital stay, blood loss, and complication [13].

Gastric cancer accompanied by esophageal hiatal hernia is relatively common and has been well described. Mimatsu *et al.*, reported the clinicopathological characteristics, treatment, and outcomes of 14 patients with gastric cancer from the

upside-down stomach through a para-esophageal hernia [4]. Hagiwara *et al.*, reported on five patients who underwent laparoscopic gastrectomy for gastric cancer accompanied by huge hiatal hernia [2].

Shah *et al.*, first reported the laparoscopic approach for early gastric cancer in paraesophageal hiatal hernia in 2004, but only with an English summary [5]. As of January 31, 2015, five cases of laparoscopic gastrectomy for gastric cancer with hiatal hernia have been reported in Japan [6-9]. According to the study made in 2015 by C Hagiwara *et al.*, of five cases, of laparoscopic gastrectomy for gastric cancer with hiatal hernia [6-9], two patients were male and three were female, with a median age of 80 years (range, 78–82 years). An old age of about 80 years was one of the major characteristics of this series as is the case of our patient who is 80 years old. The five patients had preoperative complaints associated with symptoms of esophageal reflux, including regurgitation, vomiting and dysphagia, however our patient's consultation was for acute dyspnea since the period coincided with the onset of covid 19.

The pathological stage according to the Japanese classification of gastric cancer was IA in four patients and IIB in one. The type of hernia hiatus was type I in one patient and type IV in four. An upside-down stomach was present in three of the patients. In the two other patients, half of the stomach and the transverse colon were asymptotically incarcerated in the hernia sac, as was the case in our patient.

Three patients underwent distal gastrectomy, one underwent total gastrectomy and one underwent proximal gastrectomy. The Roux-en-Y method was chosen for our patient. We also performed a total laparoscopic D1.5 gastrectomy with an oeso-jejunal anastomosis on a Y loop.

In reported cases of distal gastrectomy, operation times were between 308 and 386 min and blood loss was between 15 and 270 mL (US).

The operative time in our case was 260 min which can be considered as an optimal duration while taking into account the realization of the simultaneous laparoscopic cure of the hiatal hernia.

Blood loss was estimated to be 30 mL which is comparable to those in reported cases of laparoscopic gastrectomy.

Basic surgical procedures for hiatus hernia are total excision of the hernia sac, or just closure of the hernia orifice. From five patients cited in C Hagiwara 's series et al excision of the hernia sac was performed in only one case, and closure of the hernia at the orifice was performed in four cases.

In our patient, a meticulous dissection of the hernia sac and the two left and right diaphragmatic pillars was carried out. We then resected the hernial sac, and we brought the 2 pillars closer by non-absorbable knots allowing the closure of the hernia orifice.

According to the Japanese study [1] Hospital stay was between 10 and 19 days. Our patient was authorized to liquids the third postoperative day, and discharged on the fifth.

Multicentric studies with larger samples and long-term follow-up may be useful to demonstrate the benefits and usefulness of laparoscopic surgery in patients with an association of gastric tumor and hiatal hernia in terms of benefits, recurrence and complications, since this association is quite frequent.

CONCLUSION

We presented a very interesting case which highlighted completely laparoscopic approach benefits in gastric cancer associated with a hiatal hernia treatment. A review of the literature supports a minimally invasive approach for both procedures and shows that it is safe, effective, and technically feasible.

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