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Ruptured Hemorrhagic Liver Metastasis in a Gastric Cancer Patient – Case Report

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Abstract
Background
Gastric cancer is a type of tumor that develops in the lining of the stomach. Most common histological type is adenocarcinoma of varying degree of differentiation. Other known types are gastric lymphomas or mesenchymal tumors. Treatment of gastric cancer depends on the stage, but surgery can be the only curative option. Early gastric cancer patients benefit from mini-invasive techniques such as endoscopic mucosal resection. However, more advanced stages require major surgical resection. Gastric cancer treatment is complemented by chemotherapy, radiotherapy and targeted immunotherapy. There is a common consensus that most cases of advanced gastric cancer (stage IV) with liver metastases do not benefit from major surgery, but should continue other treatment options. In emergency cases surgical intervention may be unavoidable.
Case presentation
Our patient is a 49 years old male diagnosed 4 months prior to the current events with gastric adenocarcinoma, with a liver metastasis of 4×5cm in the VI-th segment. He was ongoing a chemotherapy course. During the 3rd cycle of chemotherapy, he suffers from major hemorrhage manifested with melena and hematemesis. He was treated at the nearest regional hospital. The surgeons concluded that the patient should undergo emergent surgery to stop the hemorrhage. A subtotal gastrectomy was performed. Just about the moment for the abdominal closure, the metastasis of the VI-th segment ruptures, with a following abundant intraperitoneal hemorrhage. Under the conditions of unattainable hemostasis, the surgeons bandage the lesion and the right lobe with gauzes and prepare the immediate transfer of the patient in our clinic where he underwent a second intervention for the resection of the segment VI of the liver where metastasis was ruptured. On the 10th postoperative day, the patient was discharged in an improved condition.
Discussion
Gastric cancer with hepatic metastases is an advanced stage and thus has a poor prognosis. In these cases, the first-line treatment is systemic chemotherapy. Surgery is most often performed only in severe gastro-intestinal symptoms such as hematemesis and melena that do not respond to conservative measures, or to overcome obstruction.
Conclusion
The majority of retrospective studies does not support the surgical resection surgery in advanced cases, as it is detrimental to the overall prognosis. On the other hand, the benefits hepatic resection for colorectal cancer metastases have been clearly established. Conversion therapy for stage IV gastric cancer is a topic of ongoing investigation and the frontier of oncologists and general surgeons.
Keywords: General Surgery, Gastric Cancer, Liver Metastasis, Liver Resection, Ruptured Metastasis.
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1. Introduction

Gastric cancer is a type of tumor that develops in the lining of the stomach. Most common histological type is adenocarcinoma of varying degree of differentiation. Other known types are gastric lymphomas or mesenchymal tumors.

Certain etiological factors have been identified for gastric adenocarcinomas, which include: Helicobacter pylori infection, smoking, obesity and consumption of pickled vegetables, as well as some hereditary genetical conditions.

From a clinical standpoint the patients diagnosed with gastric cancer may present with a range of signs and symptoms, varying from asymptomatic to more severe cases with gastrointestinal haemorrhage or peritonitis due to perforation. Patients may complain of heartburn, loss of appetite, difficulty swallowing, weight loss, anaemia,

malaise and astenia, dark-black stool, vomiting gastric content or blood.

The diagnosis is confirmed via fibro-gastroscopy and biopsy. The macroscopic aspect of stomach cancer may vary, from mucosal inflammation, erosion to ulcerative or vegetative and hemorrhagic lesions. Computer tomography with IV contrast serves as an adjunct to help evaluate the systemic spread and the involvement of lymph nodes, liver or adjacent organs.

Treatment of gastric cancer depends on the stage, but surgery can be the only curative option. Early gastric cancer patients benefit from mini-invasive techniques such as endoscopic mucosal resection. However, more advanced stages require major surgical resection. Gastric cancer treatment is complemented by chemotherapy, radiotherapy and targeted immunotherapy.

There is a common consensus that most cases of advanced gastric cancer (stage IV) with liver metastases do not benefit from major surgery, but should continue other treatment options. In emergency cases surgical intervention may be unavoidable.

2. Case presentation

2.1 History of present illness

Our patient is a 49 years old male diagnosed 4 months prior to the current events with gastric adenocarcinoma, with a liver metastasis of 4×5cm in the VI-th segment. He was ongoing a chemotherapy course.

During the 3rd cycle of chemotherapy, he suffers from major hemorrhage manifested with melena and hematemesis. He was treated at the nearest regional hospital. The surgeons concluded that the patient should undergo emergent surgery to stop the hemorrhage.

A subtotal gastrectomy with Roux-en-Y esogastric anastomosis was performed. Just about the moment for the abdominal closure the metastasis of the VI-th segment ruptures, with a following abundant intraperitoneal hemorrhage. Under the conditions of unattainable hemostasis, the surgeons bandage the lesion and the right lobe with gauzes and prepare the immediate transfer of the patient to the I-st Clinic of General Surgery in Mother Teresa University Hospital.

After a brief resuscitative period and the administration of two units of blood, the patient is sent to the operating theatre.

2.2 Details of the surgical procedure

The procedure was performed under general anaesthesia. The previous median incision is extended to the right subcostal level. Upon entering the peritoneal cavity, a moderate amount of hemorrhagic fluid was found in the right paracolic groove and the pouch of Douglas. It is aspirated and followed with saline lavage.

Keeping the hemostatic bandaging intact, we begin at the hepatic hilus. Cholecystecomy is performed. The common bile duct, the right hepatic artery and portal vein are dissected and a rubber loop is passed.

The anterior segmental branch of right hepatic artery is ligated, without being cut. At this moment the Pringle manoeuvre is made for about 15 minutes, and the hemostatic bandages are removed.

A 5×5cm ruptured liver metastasis is evidenced. An atypical resection of the segment VI along with the metastasis is performed. Hemostatic sutures are placed on the residual borders of the liver. The Pringle lasso is released.

The procedure ends with saline lavage and the placement of two drains. During surgery additional two units of blood were administered.

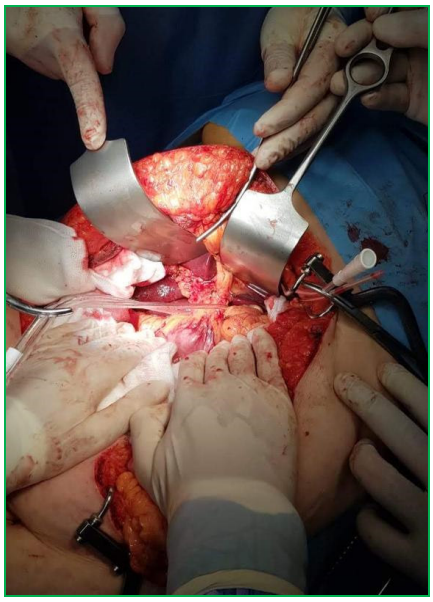

Figure 1. Dissection of the hepatic hilum and its elements. Lasso is passed for a Pringle manoeuvre.

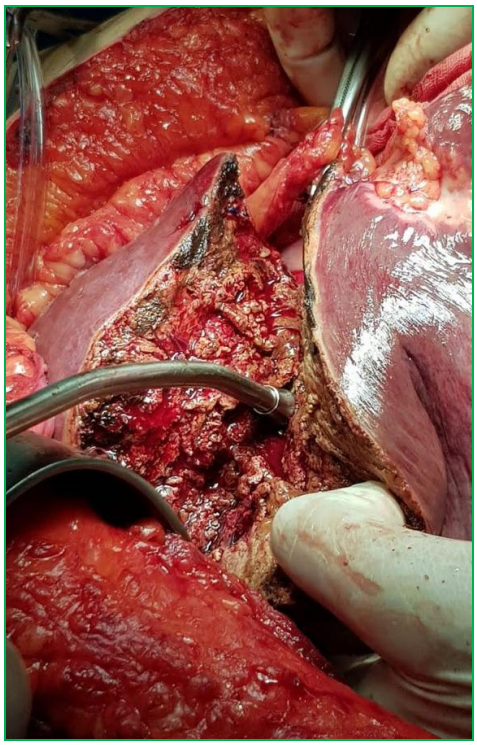

Figure 2. Resection of liver segment VI.

2.3 Post-operative period

The patient was transfered in the intensive care unit where he was monitored for the consecutive 4 days. He was discharged in an improved state on the 10th postoperative day.

3. Discussion

Gastric cancer with hepatic metastases is an advanced stage and thus has a poor prognosis. In these cases, the first-line treatment is systemic chemotherapy. Surgery is most often performed only in severe gastro-intestinal symptoms such as hematemesis and melena that do not respond to conservative measures, or to overcome obstruction.

Few patients with advanced gastric cancer have solitary hepatic metastasis. More often than not metastases are multiple and dispersed, even in both lobes. A more promising approach can be hepatic arterial infusion chemotherapy, radiation therapy, and radiofrequency ablation. Finding a good candidate for hepatic resection of

solitary meatstasis is difficult because of the locally advanced disease.

On this specific case, the acute emergent circumstances have obliged the surgeons to choose the surgical route of treatment. At first subtotal gastrectomy was performed, which was complicated by metastasis rupture and uncontrollable hemorrhage. The second intervention consisted in the resection of the affected liver segment and metastasis.

4. Conclusion

The majority of retrospective studies does not support the surgical resection surgery in advanced cases, as it is detrimental to the overall prognosis. On the other hand, the benefits hepatic resection for colorectal cancer metastases have been clearly established. Conversion therapy for stage IV gastric cancer is a topic of ongoing investigation and the frontier of oncologists and general surgeons.

The prognosis of patients with gastric cancer and peritoneal or metastatic dissemination is poor, and evaluated at 10% for 3-year survival after chemotherapy.

Recent studies have examined the viability of hepatic resection in gastric cancer metastases. The most important prognostic factor reported was the number of metastases. Patients with solitary nodules tend to have a better outcome. However, because of the high risk of intra or extrahepatic recurrences for the patients who undergo hepatectomy, perioperative chemotherapy is indicated.

We advise the adhering to the predefined treatment protocols for the treatmet of advanced gastric cancer. Palliative chemotherapy and palliative surgery depending on the case is recommended as per clinical guidelines.

Conflict of interest

The author(s) declare(s) that there is no conflict of interest. The authors alone are responsible for the content and writing of the paper.

Financial disclosure

There is no financial support to this study.

Ethical aspect

Informed consent was obtained from all participants in the study and all procedures were conducted in accordance with the Declaration of Helsinki.

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