

Case Report

Total Gastric Necrosis: A Case Report and Literature Review

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ABSTRACT

Total gastric necrosis is a rare disease and easy to misdiagnose. Here we report a rare case of total gastric necrosis. The patient, an 89-year-old male, had epigastric pain for 5 days. He was transferred to our hospital because of intraperitoneal hemorrhage and hypovolemic shock. We performed an emergency laparotomy. During the surgery, we found a total of 3500ml unclotted blood in the abdomen, splenic infarction and gastric necrosis. Total gastrectomy with Roux-en-Y esophagojejunostomy and splenectomy was performed. However, the patient died on the second day after the surgery. This case suggests that surgical treatment should be performed as early as possible when ischemia of abdominal organs is suspected.

KEY MESSAGES: *Total gastric necrosis is a rare disease with no specific clinical manifestation. When it is suspected, surgical treatment should be carried out immediately.*

KEYWORDS: *Gastric vascular thrombosis, Roux-en-Y esophagojejunostomy, total gastric necrosis.*

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INTRODUCTION

Total gastric necrosis is a rare condition with only few cases being reported. The causes in the reported cases are varied, including gastric dilatation, inflammation, toxicosis, vascular thrombosis/embolism and others^[1-3]. There is no specific clinical manifestation of gastric necrosis. Enhanced CT indicates vascular thrombosis or gastric dilatation. When total gastric necrosis is suspected, surgical treatment should be carried out immediately. Here we report a case of intraperitoneal hemorrhage caused by gastric necrosis.

CASE HISTORY

An 89-year-old male was admitted to a local hospital because of epigastric pain. Five days later, the patient was transferred to our hospital because of intraperitoneal hemorrhage and hypovolemic shock. He had an 8-year history of hypertension and 12-year history of atrial fibrillation with nifedipine and aspirin. Physical examination showed low blood pressure (93/55mmHg), fast heart rate (123 beats/min) with atrial fibrillation, and suspicious abdominal tenderness with positive shifting dullness. B-ultrasonography of the abdomen showed peritoneal ascites, and diagnostic abdominal paracentesis

revealed non-clotting blood. 50ml pale bloody fluid was drained from the gastric tube.

After blood transfusion and fluid infusion, emergency laparotomy was performed. A total of 3500 ml unclotted blood was found in the abdominal cavity. The stomach was unexpanded, but the wall was dark purple with no peristalsis [Figure 1]. There was thrombosis of left gastric artery, gastroepiploic artery and splenic artery. The small intestine and the colon were normal.

Total gastrectomy, Roux-en-Y esophagojejunostomy and splenectomy were performed smoothly. Post-operative pathological examination revealed gastric intravascular thrombosis and total gastric wall avascular necrosis. However, due to the difficulty in preventing disseminated intravascular coagulation (DIC) and repeated appearance of postoperative ventricular fibrillation (VF), the patient died two days after the surgery in the intensive care unit.

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Table 1. Literature review on total gastric necrosis

Author	Year	Cause	Symptoms
Rieger ^[1]	2012	Alcohol induced acute pancreatitis	Abdominal pain and vomiting
Patocskai ^[2]	2008	Bulimia	-
Bais ^[4]	2001	Gastric paralysis	Satiety, heartburn and regurgitation
Powell ^[6]	2003	Iatrogenic anastomotic obstruction	Right lower quadrant abdominal pain
Dharap ^[7]	2003	Acute gastritis	Peritonitis
Bortul ^[8]	2004	Celiac trunk embolization	Acute abdominal pain
Challand ^[9]	2008	Pancreatic pseudocyst	Acute abdominal pain

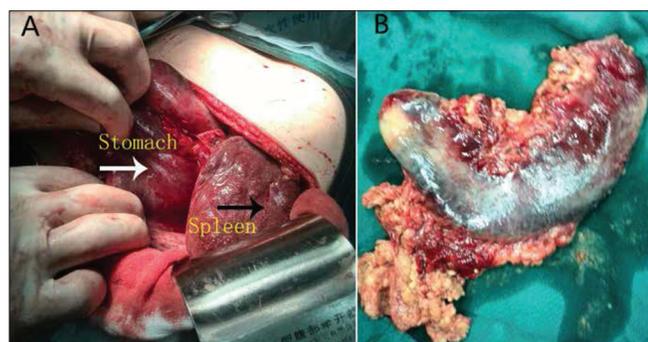


Figure 1: Total gastric necrosis. A: spleen enlargement (Black arrow) and ischemic infarction, total gastric necrosis (White arrow). B: The stomach wall was dark purple and total gastric necrosis.

DISCUSSION

Total gastric necrosis is rare as the stomach blood supply is normally sufficient. Partial vascular abnormalities or embolization generally do not cause ischemia and necrosis. The causes of gastric necrosis in the reported cases are varied, including gastric dilatation, inflammation, toxicosis, vascular thrombosis/embolism and others^[1-9] [Table 1]. Our patient is another case of vascular thrombosis of the stomach with a fatal outcome.

Vomiting, nausea and abdominal pain were the main clinical manifestations in this case, but they are not specific. Most of the patients having gastric necrosis are misdiagnosed with intestinal obstruction. In our report, the patient was treated for intestinal obstruction with conservative treatment for five days in a local hospital. Then, he was transferred to our hospital because of intraperitoneal hemorrhage and hypovolemic shock. As a result of our national conditions, there is huge variation in diagnosis and treatment level across hospitals.^[10] It is crucial therefore to transfer patients to a medical center, which is capable of offering proper treatment.

The main reasons of death for our patient were DIC and VF. The patient had a long history of atrial fibrillation,

which increased the probability of abdominal vascular thrombosis and led to organ ischemia and necrosis. DIC happened when the patient arrived to our hospital and eventually led to his death a day after the surgery. In our opinion, once total gastric necrosis is suspected, surgical treatment should be carried out immediately.

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Conflicts of interest

There are no conflicts of interest

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