Case report

A RARE CASE OF GASTRIC VOLVULUS

Gia Azmaiparashvili[1,2], Gia Tomadze[1,2], Avtandil Megreladze[1,2], Baadur Kikalia[2], Manuchar Gvatadze[2], Mamuka Goletiani[1,2], Alexander Gvazava[1,2]

[1]*Department of Surgery, International Faculty of Medicine and Dentistry, Tbilisi State Medical University*
[2]*LTD Pineo Medical Ecosystem*

Contact person: Gia Azmaiparashvili, g.azmaiparashvili@tsmu.edu

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Rezume

Gastric volvulus is a very rare disease, accounting for approximately 0.5% of all abdominal volvulus cases. It presents as acute or chronic abdominal pain and vomiting, most commonly in young and middle-aged individuals, or in young children with congenital gastrointestinal anomalies. The hallmark features are impaired blood supply to the gastric tissues and obstruction of the gastrointestinal passage. Diagnosis relies on gastroscopy, radiological imaging, and computed tomography. Prompt surgical intervention is mandatory to prevent complications.

The paper discusses the case of a 66-year-old woman who complained of diffuse abdominal pain, bloating, nausea, general weakness, vomiting, and inability to tolerate both food and liquids. Her history included laparoscopic cholecystectomy and Nissen-type surgery on the esophagus (which presumably became the cause of gastric volvulus). Using the above investigations, the diagnosis was established, and emergency surgery was performed. The stomach was of large size, markedly distended, occupying almost the entire abdominal cavity, twisted by 180 degrees, and fixed by dense adhesions. The pyloro-antral part of the stomach was displaced beneath the diaphragm; both the esophagus and the duodenum were twisted. This represented gastric volvulus, due to which the esophagus and duodenum were non-patent. Posterior to the esophagus, the transverse colon, together with the greater omentum, was visualized. There was a pronounced adhesive process around the stomach. Adhesiolysis and visualization of anatomical structures were achieved. Detorsion of the stomach and reposition of the transverse colon to the anatomical location were carried out after dismantling the esophageal "cuff" (previous Nissen-type procedure). Patency of the esophagus, stomach, and duodenum was restored. Gastropexy of the fundus and antrum to the anterior abdominal wall was performed, after which the stomach and duodenum assumed their physiological position. The stomach color was normal. The postoperative period was uneventful. The patient was discharged from the clinic on day 4. Contemporary diagnostic methods allow rapid diagnosis and emergency surgery for this rare pathology. Surgical management includes adhesiolysis, detorsion of the stomach, restoration of patency of the esophagus, stomach, and duodenum, and gastropexy.

Key words: stomach, volvulus, adhesiolysis, gastrotomy, gastrorrhaphy, esophagorrhaphy, detorsion, gastropexy.

INTRODUCTION

Gastric volvulus is the twisting of a hollow organ around its axis with displacement. It leads to impaired blood supply to gastric tissue and disrupted passage of gastrointestinal contents [3,4]. The disease presents with severe upper abdominal pain, persistent vomiting, and abdominal distension. Diagnosis is clinical, radiologic [computed tomography], and endoscopic [7,12]. Surgical intervention is required, including correction of torsion and fixation of the stomach to the abdominal wall [1,3,11].

The disease is rare, accounting for 0.5% of cases of abdominal volvulus. It occurs in young and middle-aged individuals. Congenital gastrointestinal anomalies occur in early childhood. Delayed diagnosis often leads to high mortality [4,8,13,15]. The condition's etiology is unknown and is most often linked to individual anatomical features, such as constitutional weakness, underdeveloped gastric ligaments, and gastrointestinal developmental defects [1,2,6,15].

The following conditions contribute to disease development. Diaphragmatic hernia is the most frequent cause. Risk also increases with phrenic nerve damage, leading to diaphragmatic relaxation. Plant-based or very fatty foods increase risk. Increased intra-abdominal pressure from chronic constipation, persistent cough, or frequent vomiting is another cause [3,5,12].

Gastric volvulus can follow surgeries like small intestine resection, fundoplication for reflux, and truncal vagotomy [2,9,10,14].

Two pathogenetic stages of gastric volvulus exist. In the first stage, the stomach twists less than 180 degrees, making it hard for food to pass into the intestine. In the later stage, the twist exceeds 180 degrees. The upper and lower stomach openings close, resulting in a serious blockage. Decreased blood flow to the stomach wall increases tissue death. This can lead to stomach wall perforation and severe abdominal infection. If untreated, the death rate is 50%. Early on, traumatic shock and spleen rupture are risks; later, there is a high chance of inflammation of the lung lining and pneumonia [1,2,6,9,13].

Diagnosis is difficult due to rare, non-specific signs. Investigations include radiography, endoscopy, CT, and laparoscopy.

Emergency surgery is always required for gastric volvulus. Conservative therapy fails.

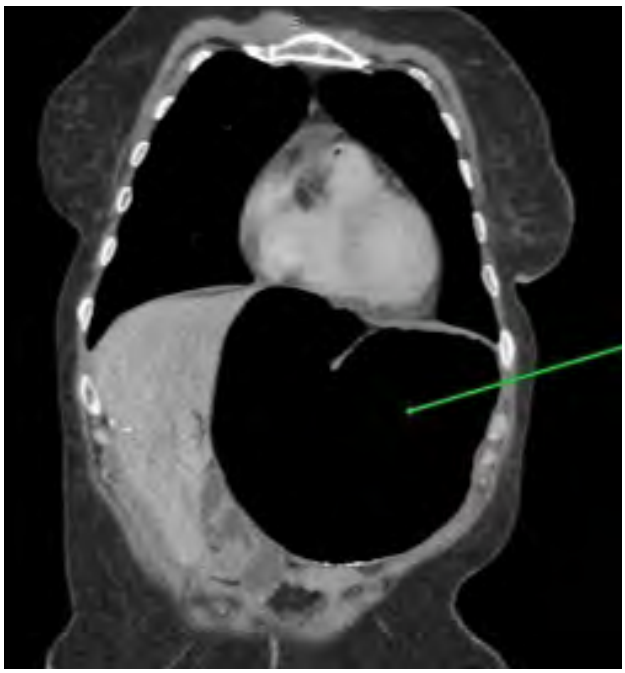

Figure 1. CT image demonstrating a distended and twisted stomach.

Early diagnosis and modern surgery lead to good outcomes [3,7,9,12].

CLINICAL CASE

We present a case from our practice. T.M., a 66-year-old woman, was admitted to the clinic on 27.10.2025 as an emergency. On admission, she reported diffuse abdominal pain, bloating, nausea, weakness, and vomiting even after drinking liquids.

Brief history: She previously underwent appendectomy; in April 2025, she had a laparoscopic cholecystectomy and Nissen fundoplication for a hiatal hernia.

Symptoms progressed over five days; the patient could not tolerate food or liquids, had severe pain [especially in the upper abdomen], and sought care at our clinic.

Clinical, lab, and imaging studies were performed.

Ultrasound showed no free fluid. Intestines were distended with gas. The stomach held large amounts of liquid.

Gastroscopy showed swollen, soaked mucosa above the cardiac sphincter; the scope could not pass beyond. Neither the stomach nor the duodenum could be seen, and a biopsy probe could not be inserted. This raised the question: Is there a narrowing in the lower third of the esophagus?

A CT scan of the abdominal cavity in angiographic mode was performed. No free fluid or gas was detected in the abdominal or pelvic cavities. After intravenous bolus contrast injection, the aorta and major vessels were patent; no pathological stenoses or dilatations were noted. Oral contrast did not pass beyond the esophagus, which was dilated and filled with fluid content. The stomach was displaced and markedly distended, containing a large amount of liquid and gas; the lumen was narrowed both proximally and distally. The pylorus was abnormally located, subdiaphragmatic, and a left gastric volvulus was suspected. The transverse colon was displaced and visualized medial to the stomach. The remaining structures showed no remarkable changes. Figure 1.

Emergency surgery was performed the same day. Laparotomy was done through a midline incision from the xiphoid process to the left of the umbilicus. The stomach was large, distended, and occupied almost the entire abdominal cavity. It was twisted 180 degrees and fixed by dense adhesions. The pyloro-antral part was beneath the diaphragm. Both the esophagus and duodenum were twisted, making neither patent, and the stomach was severely distended. Posterior to the esophagus, the transverse colon and greater omentum were visible. Dense adhesions surrounded the stomach, making anatomical differentiation difficult.

Due to technical difficulties, blunt and sharp adhesiolysis was performed. Anatomical structures were visualized. Detorsion was achieved after adhesiolysis and gastrotomy. Gastric decompression via a nasogastric tube was performed. Placement of the tube was possible after decompression, which was not possible before due to volvulus. Gastrorrhaphy was performed. Adhesiolysis on the lesser and greater curvatures followed. The transverse colon was repositioned to its anatomical location. Suturing of the deserosated esophagus was carried out, and the exposed lesser curvature was restored. The gastrocolic ligament was also reconstructed. A nasoenteric tube was advanced via the Treitz ligament into the jejunum by 15 cm. An additional nasogastric tube was placed through the other nostril. Patency of the esophagus, stomach, and duodenum was restored. Gastropexy of the fundus and antrum to the anterior abdominal wall was then performed, resulting in physiological positioning of the stomach and duodenum. Gastric walls were pink and viable. The abdominal cavity was irrigated with Betadine solution. Hemostasis was complete. Two drains were placed: one in the Douglas pouch, exteriorized through a separate counterincision in the right iliac fossa; the second in the left iliac fossa, exiting via the left lateral gutter.

The postoperative period was uneventful. The patient was discharged on postoperative day 4 in satisfactory condition under outpatient care. She had no complaints. Sutures were removed on an outpatient basis, and the wound healed by primary intention.

CONCLUSION:

Gastric volvulus is an extremely rare pathology, and timely diagnosis is sometimes difficult. With modern clinical, laboratory, and instrumental diagnostics such as ultrasound, gastroscopy, and computed tomography, timely recognition and emergency surgery are possible. Surgical management includes adhesiolysis, detorsion, restoration of patency of the esophagus, stomach, and duodenum, and gastropexy. It should be assumed that in the presented case, the cause was laparoscopic cholecystectomy and Nissen-type antireflux surgery performed five months earlier. This case demonstrates the critical importance of early diagnosis and adequate treatment.

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კუჭის შემოგრეხის იშვიათი შემთხვევა

გია აზმაიფარაშვილი[1,2], გია თომაძე[1,2], ავთანდილ მეგრელაძე[1,2], ბაადურ კიკალია[2], მანუჩარ ღავთაძე[2], მამუკა გოლეთიანი[1,2], ალექსანდრე გვაზავა[1,2]

[1]თსსუ მედიცინისა და სტომატოლოგიის საერთაშორისო ფაკულტეტის ქირურგიის დეპარტამენტი
[2]შპს „პინეო სამედიცინო ეკოსისტემა"

პასუხისმგებელი პირი: გია აზმაიფარაშვილი, g.azmaiparashvili@tsmu.edu

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რეზიუმე

მუცლის ღრუში განვითარებულ ორგანოთა შემოგრეხებს შორის კუჭის შემოგრეხა ძალზე იშვიათია - სულ 0,5%. პათოლოგია შეინიშნება ახალგაზრდა და საშუალო ასაკის პირებში. კუჭ-ნაწლავის ტრაქტის თანდაყოლილი ანომალიების დროს გვხვდება მცირეწლოვან ბავშვებში. პათოლოგიას თან ახლავს კუჭის ქსოვილების სისხლით მომარაგების დარღვევა და კუჭ-ნაწლავის ტრაქტის შიგთავსის პასაჟის გაუარესება. დიაგნოსტირება ხდება გასტროსკოპიით, რენტგენოლოგიური და კომპიუტერული ტომოგრაფიული კვლევით. საჭიროებს სასწრაფო ქირურგიულ ოპერაციას.

ნაშრომში განხილულია 66 წლის ქალის შემთხვევა, რომელიც უჩიოდა დიფუზური ხასიათის ტკივილს მუცლის არეში, შებერილობას, გულისრევას, საერთო სისუსტეს, ღებინებას, ვერ იღებს ვერც საკვებს და ვერც სითხეებს. ანამნეზში ლაპაროსკოპული ქოლეცისტექტომია და საყლაპავზე ნისენის ტიპის ოპერაცია (სავარაუდოდ ეს უკანასკნელი გახდა კუჭის შემოგრეხის მიზეზი). ზემოთ აღნიშნული კვლევებით დადგინდა დიაგნოზი და გაკეთდა სასწრაფო ოპერაცია. კუჭი დიდი ზომის, გადაბერილი, იკავებდა თითქმის მთელ მუცლის ღრუს, შემოგრეხილი 180°-ით, ფიქსირებული ტლანქი შეხორცებითი ზონრებით. კუჭის პილორო-ანტრალური ნაწილი ასული დიაფრაგმის ქვეშ; შემოგრეხილი იყო როგორც საყლაპავი, ასევე თორმეტგოჯა ნაწლავი. საქმე ეხებოდა კუჭის შემოგრეხას, რის გამოც დარღვეული იყო საყლაპავის და თორმეტგოჯა ნაწლავის გამავლობა. საყლაპავის უკან ვიზუალიზდებოდა განივი კოლინჯი მთლიანად, დიდ ბადექონთან ერთად. კუჭის ირგვლივ ძლიერი შეხორცებითი პროცესი. მოხერხდა სინექიოლიზი და ანატომიური სტრუქტურების ვიზუალიზაცია. მოხდა კუჭის დეტორზიო და განივი კოლინჯის რეპოზიცია ანატომიურ ადგილას საყლაპავიდან „მუფტის" მოხსნის შემდეგ (წარსულში „ნისენის" ტიპის ოპერაცია). აღდგა საყლაპავ-კუჭ-თორმეტგოჯა ნაწლავის გამავლობა. გაკეთდა მუცლის წინა კედელზე კუჭის ფუნდუსის და ანტრუმის მიდამოს პექსია; კუჭმა და თორმეტგოჯა ნაწლავმა მიიღეს ფიზიოლოგიური მდებარეობა. კუჭის ფერი - ნორმალური. პოსტოპერაციული პერიოდი გართულებების გარეშე. ავადმყოფი კლინიკიდან გაეწერა მე-4 დღეს. თანამედროვე კვლევებით შესაძლებელია ამ იშვიათი პათოლოგიის დიაგნოზის სწრაფი დასმა და სასწრაფო ოპერაციის გაკეთება. ოპერაციაში იგულისხმება სინექიოლიზი, კუჭის დეტორზიო, საყლაპავ-კუჭის და თორმეტგოჯა ნაწლავის გამტარობის აღდგენა და გასტროპექსია.

საკვანძო სიტყვები: კუჭი, შემოგრეხა, სინექიოლიზი, გასტროტომია, გასტრორაფია, ეზოფაგორაფია, დეტორზიო, გასტროპექსია.