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Gastric Volvulus: A Rare Cause of Acute Abdomen in 84-Year-Old Patient

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Authors' contributions

This work was carried out in collaboration among all authors. Author AM designed the study, wrote the protocol, corrected the manuscript. Author HEK wrote the first draft of the manuscript, managed the literature searches. Author KK corrected the manuscript, supervised the redaction. Author MB corrected the manuscript, supervised the redaction. Author AEB corrected the manuscript, supervised the redaction. Author KEH corrected the manuscript, supervised the redaction. Author AE Corrected the manuscript, supervised the redaction. All authors read and approved the final manuscript.

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Case Report

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ABSTRACT

Introduction: Gastric volvulus is a rare abdominal emergency occurring when the stomach rotates along one of its axis.
Presentation of the Case: our patient is a 84 year old male, with history of smoking, admitted in the emergency room for acute epigastric pain and distension and hematesis. Physical examination found a distended upper abdomen. And the CT scan showed a mesenteroaxial volvulus of the stomach, the patient was operated on laparoscopically, with reduction of the volvulus and

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gastropexy, no predisposing abdominal abnormality was found, the postoperative course was uneventful and the patient discharged after 3 days.
Discussion: Organo axial volvulus is the most common form of gastric volvulus, mesetero axial and the combined volvulus are the other types described in literature. Gastropexy and devolvulation with the eventual treatment of any predisposing intra-abdominal abnormalities are the pillars of the surgical treatment.
Conclusion: Gastric volvulus is rare surgical emergency; expeditious treatment prevents serious avoidable complications.

Keywords: Gastric volvulus; acute abdomen; case report; gastric strangulation; laparoscopy.

1. INTRODUCTION

Gastric volvulus is a rare clinical event, it occurs when the stomach rotates on itself along its transverse or longitudinal axis for at least 180° [1]. In most cases it is the result of gastric, splenic, or diaphragmatic anatomic abnormality, the most common cause is a diaphragmatic hernia [2-6]. Here we describe the case of a 84 year old patient, presenting a gastric volvulus without having a predisposing diaphragmatic anatomic abnormality.

2. PRESENTATION OF THE CASE

The patient is an 84-year-old male, with a history of chronic smoking, operated on in 2019 for a benign prostate hypertrophy, and having no further history of abdominal surgery. The patient reported epigastric pain evolving for 8 days

Fig. 1. CT scan images

Fig. 2. Gastric volvulus

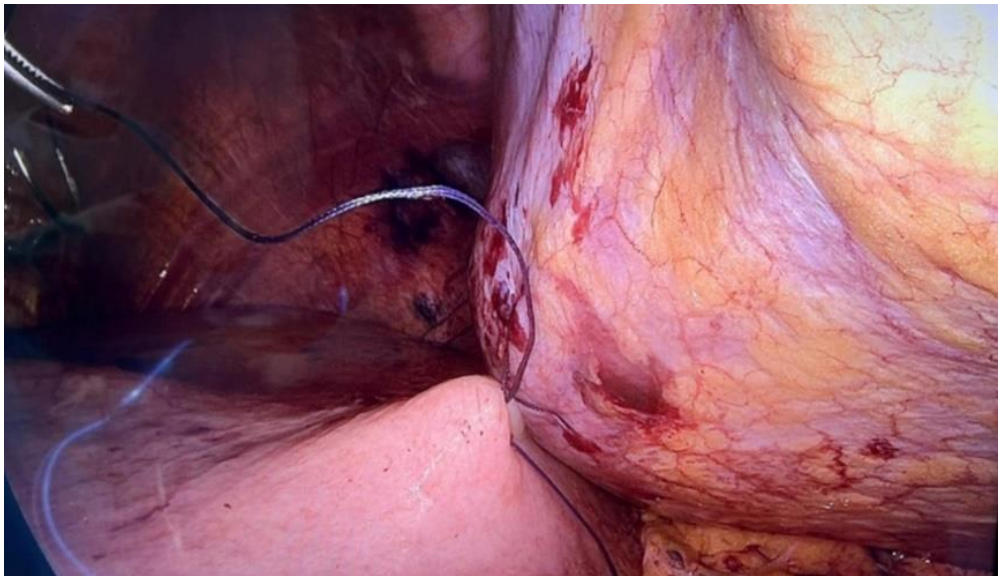

Fig. 3. Gastropexy after volvulus reduction

before his admission to the emergency room, associated with hemateins of low abundance and abdominal distension. The physical examination of the patient revealed stable vital parameters, and a distended abdomen especially in the epigastric and upper left abdomen [7,8]. A pre-operative CT Scan showed a mesentero axial volvulus of the stomach, associated with stones in the gallbladder.

The patient was admitted to the operating room urgently, and was operated upon by laparoscopy. Upon the introduction of the trocarts, we have found a viable stomach which is rotated 180° along its longitudinal axis, with the greater curvature facing the liver. We proceeded with a devolvulation of the stomach, and a gastropexy to the anterior abdominal wall, we then performed a cholecystectomy.

The post operative course was uneventful, and the patient was discharged after 3 days.

3. DISCUSSION

Acute gastric volvulus constitutes an abdominal emergency, and requires prompt diagnosis and

treatment, patients typically present with acute epigastric pain and distension, and unproductive vomiting. These symptoms are known as the Borchardt triad [9]. In the most common cases gastric volvulus is secondary to a diaphragmatic defect or other intra abdominal abnormalities, such as gastric tumors and adhesions [10]. In our case the volvulus was primary, meaning no other abdominal predisposing factors were found, this entity is much rarer and is primarily the result of ligamentous lengthening.

Three types of gastric volvulus are described in literature [11], the organoaxial, mesenteroaxial, and a combination of both. The most common is the organoaxial volvulus, in which the stomach rotates along the cardio pyloric axis with two sites of obstruction, this entity is the one encountered in our patient. The mesenteroaxial volvulus results of the rotation around a transverse axis at the antral area. The combined type of gastric volvulus is much rarer.

The primary treatment of gastric volvulus is surgery, including a decompression of the stomach with the reduction of the volvulus, gastropexy, and the correction of any intra abdominal predisposing factors to volvulus.

The possible operative procedures used to prevent recurrence of volvulus have been reviewed by Tanner [7] : 1. repair of diaphragmatic hernia, 2) division of adhesive bands 3) gastropexy 4) gastropexy with subphrenic colonic displacement;5) partial gastrectomy 6) gastrojejunostomy 7) Opolzer's operation of fundo-antral gastropexy; 8) repair of eventration of the diaphragm. In our case we proceeded with a reduction of the volvulus and a gastropexy to the anterior abdominal wall, and the surgery was well tolerated by our patient.

4. CONCLUSION

Gastric volvulus is a rare abdominal emergency requiring a prompt diagnosis and expeditious surgical treatment, it most commonly results from a diaphragm defect or other intra abdominal abnormalities which should be addressed during the same surgery to prevent a recurrence.

CONSENT

All authors declare that ‘written informed consent was obtained from the patient (or other approved parties) for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editorial office/Chief Editor/Editorial Board members of this journal.

ETHICAL APPROVAL

All authors declare that ‘written informed consent was obtained from the patient (or other approved parties) for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editorial office/Chief Editor/Editorial Board members of this journal.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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