



Case Report

Clinical outcomes of modified minimally invasive approach and de-rotation of symptomatic chronic gastric volvulus – A tertiary centre experience

Bin Chet Toh ^{a, *}, Timothy Zhe Hao Teo ^b, Jaideep Raj Rao ^c^a Upper Gastrointestinal and Bariatric Metabolic Surgery Unit, Department of General Surgery, Sengkang General Hospital (SKGH), 1 Anchorvale Street, 544835, Singapore^b General Surgery Department, Tan Tock Seng Hospital, 11, Jalan Tan Tock Seng, 308433, Singapore^c Upper Gastrointestinal, Bariatric and Advanced Laparoscopic Unit, General Surgery Department, Tan Tock Seng Hospital, 11, Jalan Tan Tock Seng, 308433, Singapore

ARTICLE INFO

Article history:

Received 1 November 2017

Accepted 4 November 2017

Available online 9 November 2017

Keywords:

Chronic gastric volvulus

Minimal invasive surgery

Upper gastrointestinal tract

ABSTRACT

Introduction: Gastric volvulus is a surgical condition that should be recognised promptly to prevent life-threatening gastric ischaemia and perforation in acute setting. There are two peak age group of incidence with children less than one year old and at fifth decade.¹ The mortality rates for acute gastric volvulus remain high with reported range from 30% to 50% signifying the need of early diagnosis and treatment.² These case series reported modified minimal invasive approach for symptomatic chronic gastric volvulus in a tertiary upper gastrointestinal unit in Singapore.

Methods: Retrospective case series reviewed in single centre from 1st May 2016 to 1st May 2017 of clinical outcomes of modified minimally invasive approach and de-rotation of symptomatic chronic gastric volvulus.

Results: Three symptomatic patients with evidence of gastric volvulus on CT-scan underwent minimally invasive repair with the aids of GastriSail™ Gastric positioning system. GastriSail™ was used for gastric volvulus de-rotation prior to repair definitely. Two patients had fundoplication done and one patient had gastropexy performed successfully. All patients started on blended diet post-operative day 1 and discharged well. Patient remained asymptomatic and nil recurrence at 3 months follow-up post-operation.

Conclusion: Based on our experience, we advocate modified minimally invasive repair of chronic gastric volvulus as an alternative to traditional open surgical technique with acceptable good clinical outcomes.

© 2017 The Authors. Published by Elsevier Ltd on behalf of Surgical Associates Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Gastric volvulus is a surgical emergency condition that is challenging in diagnosis and management. It should be recognised promptly to prevent life-threatening gastric ischaemia and perforation in acute setting. There are two peak age group of incidence with children less than one year old and at fifth decade [1]. The mortality rates for acute gastric volvulus remain high with reported range from 30% to 50% signifying the need of early diagnosis and surgical treatment [2]. However, there is lack of literature to support laparoscopic intervention and the benefits remain unproven in management of gastric volvulus. These case series will demonstrate the modified minimal invasive technique of de-rotation of gastric volvulus with the aid of GastriSail™ Gastric positioning system as

an alternative to the traditional open surgical approach in a tertiary upper gastrointestinal unit in Singapore.

2. Methods

All patients admitted to single tertiary hospital in Singapore between 1st May 2016 to 1st May 2017 with proven diagnosis of gastric volvulus on CT-scan imaging were included in the retrospective study. Electronic clinical files and operation reports on OTRSYS system were reviewed and analyzed. Only patient underwent minimally invasive repair were included in the study. Patient with open repair approach of gastric volvulus were excluded. Collected data included age, gender, clinical presentation, surgical details, length of hospital stay, time of starting enteral feeding, surgical complications and 3 months follow-up outcomes. The research work has been reported in line with the PROCESS criteria [3].

* Corresponding author.

E-mail address: binchet626@yahoo.com (B.C. Toh).

3. Results

During the study period, seven patients were diagnosed with radiologically evident of gastric volvulus in our centre. However, only three symptomatic patients (two males and one female) with mean age of 66 were included in the study (Table 1). Four patients were excluded from the study due to open emergency surgery. All three patients included in the study had evidence of gastric volvulus on CT-scan and underwent minimally invasive repair with the aids of GastriSail™ Gastric positioning system. GastriSail™ was used for gastric volvulus de-rotation prior to minimally invasive repair definitely. Two patients had minimally invasive fundoplication done and one patient had minimally invasive gastropexy performed successfully. All patients started on blended diet post-operative day 1 and discharged well with nil surgical complications. All patients remained asymptomatic with nil recurrence at 3 months follow-up. (Table 2).

4. Case report 1

The first patient is a 66 year old Chinese gentleman, smoker, with recurrent intermittent epigastric pain and weight loss for a year. He was first seen in clinic in December 2016. Chest X-ray showed large hiatus hernia with nil suspicious pulmonary nodules. He had upper endoscopy done that showed a large paraoesophageal hernia with distorted anatomy. A screening CT colonography done showed a large hiatus hernia, otherwise no other intra-abdominal or colonic pathology.

In January 2017, he presented to emergency department with vomiting and epigastric pain with inability to tolerate solid food for several days. His abdomen was tender over the epigastrium but no guarding or peritonism. Urgent CT scan showed a large paraoesophageal hernia with herniation of the body of stomach into the thoracic cavity (Fig. 1). There is a suggestion of an organo-axial gastric volvulus. Emergency upper endoscopy was arranged for the patient and showed distorted gastric anatomy with healthy mucosa.

In view of symptomatic clinically and positive CT-findings, patient underwent semi-emergency laparoscopic de-torsion of gastric volvulus, mesh repair of hiatus hernia with floppy Nissen fundoplication. Intra-operative findings of a Type-III paraoesophageal hernia with fundus of stomach that herniated into left thoracic cavity. The organoaxial gastric volvulus was successfully de-torted and reduced with GastriSail™ prior surgical repair of hiatus hernia.

Postoperatively, patient was started on blended diet at POD (post-operative day) one. He was discharged well on POD 2 and during follow-up in clinic about 2 weeks later, patient was tolerating diet, with no further epigastric pain, dysphagia or vomiting. In 3 months follow-up, patient was well and discharged from surgical clinic.

5. Case report 2

The second patient is a 67 year old Chinese lady that was admitted in January 2017 with intermittent epigastric pain and vomiting. Chest

X-ray showed nil free air under diaphragm. CT-scan Abdomen and Pelvic showed mesentero-axial type gastric volvulus. (Fig. 2).

She underwent semi-emergency laparoscopic detorsion of gastric volvulus, repair of hiatus hernia and floppy Nissen fundoplication. Intra-operative findings were of a large hiatus hernia with mesenteroaxial gastric volvulus. The volvulus was de-rotated and reduced before performing floppy Nissen fundoplication. Post-operatively patient had no complications and able to take blended diet well. She was discharged well on POD 2 and was seen in clinic a month post-operatively. She was asymptomatic at his 3 months follow-up visit and was, thus, discharged from care.

6. Case report 3

The last patient is a 67 year old Chinese gentleman with a history of total laryngectomy in 2012 for subglottic tumor. He also had a thoracic aneurysm and underwent TEVAR (Thoracic Endovascular Aneurysm Repair) in 2013. On yearly surveillance CT-aortogram, there was increased of aneurysm secondary to Type-II endoleak that he had an embolisation done in March 2017.

A week after the embolization procedure, he presented with colicky epigastric pain and vomiting. A CT angiogram was done for the patient that showed no endoleak. However, it also showed mesentero-axial gastric volvulus (Fig. 3). An urgent upper endoscopy showed a distorted stomach likely from gastric volvulus but no gastric wall ischaemia seen.

Decision was made for semi-emergency laparoscopic gastropexy of the gastric volvulus. Intra-operative findings were of a long freely mobile stomach and a mesenterico-axial volvulus with no hiatus hernia. The volvulus was reduced with introduction of GastriSail™. In view of long and mobile stomach, decision made for gastropexy with Prolene 3-0 stitch. The fundus of stomach was anchored to the left crus of diaphragm, body and antrum were anchored to undersurface of anterior abdominal wall. Patient tolerated blended diet POD1 and was discharged well on POD 3. Patient remained asymptomatic at 3 months follow-up.

7. Operative technique

Patient was placed in reverse trendelenburg position. Standard 4-ports placed as per upper gastrointestinal surgery after pneumoperitoneum creation. All three gastric volvulus – one organo-axial and two mesenteroaxial type were successful de-rotated and reduced with GastriSail™ Gastric positioning system without the need of on-table upper endoscopy. The aetiology for gastric volvulus was primary idiopathic with abnormal long stomach in one case and another two cases secondary to paraoesophageal hernia.

Both patients with paraoesophageal hernia underwent hernia repair and floppy Nissen fundoplication whereas the other patient with primary idiopathic gastric volvulus underwent laparoscopic gastropexy. Nathenson liver retractor was used to retract the left lobe of liver. The pars flaccida of the lesser omentum is divided and dissection continues along the right crus to the decussation of the crura. The hernia sac was carefully dissected off and excised.

Table 1
Patient's demographics and clinical presentations.

Subject	Age	Sex	Co-morbidity	Presenting symptoms	CT-scan findings
Case 1	66	M	Hypertension, Chronic Kidney Disease	Vomiting and Epigastric pain	Large paraoesophageal hernia. The greater curvature of the stomach located superior to the lesser curvature worrisome for organo-axial gastric volvulus.
Case 2	67	F	Diabetes, Hypertension, Hyperlipidaemia	Intermittent Epigastric pain	Gastric volvulus likely mesentero-axial type, with associated gastric distension.
Case 3	67	M	Hypertension, Thoracic Aneurysm post TEVAR	Intermittent Epigastric pain	Mesentero-axial gastric volvulus with mild perigastric fat stranding and fluid.

Download English Version:

<https://daneshyari.com/en/article/8604900>

Download Persian Version:

<https://daneshyari.com/article/8604900>

[Daneshyari.com](https://daneshyari.com)