

## ACUTE STOMACH VOLVULUS - CASE REPORT

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*Summary:* Stomach volvulus in its acute form is a serious sudden disorder in the abdominal cavity. The case of stomach volvulus, that had been successfully surgically solved, is described in the presented paper. Even though the volvulus was not caused by the hiatus hernia, the antireflux fundoplication according to Nissen-Rossetti was performed besides the frontal gastropexy.

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**Key words:** *Stomach volvulus; Antireflux surgery*

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### Introduction

The stomach volvulus is a rotation for more than 180°. It causes the stomach obstruction. The vessel compression may lead to stomach wall necrosis. This disorder was first described by Ambrosie Pare in 1579 as a complication of strangulated diaphragmatic hernia after a cut injury. In 1866 Berti described the acute stomach volvulus in a 66-year-old woman who died of the high ileus. In 1896 Berg performed the first successful operation after previous percutaneous decompression with trocar and canulla. The frequency of appearance of this disease is not high, but on the other hand, the chronic form of the disease is more frequent than it was supposed in the past (3,5,6).

From the anatomic point of view there are three types of volvulus - organoaxial, mesenterioaxial, and the combined form. From the clinical point of view we can observe the acute and the chronic volvulus; according to the etiology the volvulus can be either primary or secondary. Anamneses show that painful epigastrium and feelings of full stomach and vomiting are typical. Borchartd-Lenormontov's trias is a typical symptom in the acute stadium of the disease: sudden appearance of severe pain in abdominal cavity with vomiting, nausea, and impossibility of introduction of the stomach probe. Diagnosis of stomach volvulus is clearly confirmed by the contrast X-ray examination of the stomach (12).

Derotation of the stomach and control of possible ischemic changes on its wall are the principles of the surgical treatment. The identification of the volvulus cause and its removal follow. The operation is finished by prevention of the rotation recurrence - the various types of gastropexy.

Therapeutically, it is important to leave the stomach probe until the full stomach motility has been restored (7,8,11).

Chronic stomach volvulus is manifested more by non-specific symptoms that lead to suspicion of other disorder of gastroduodenum or cholecystopathy (1).

### Case report

A 30-year-old woman was admitted to the surgical department. She suffered from an acute pain of abdomen and feeling of flatulence in epigastrium. She had a very strong nausea; before the admission she had vomited once. Even after the introduction of a nasogastric tube there was no sign of desuflation of the stomach. The contrast X-ray examination of the stomach diagnosed stomach volvulus (Fig. 1 and 2). The ultrasound of the abdomen showed epigastric flatulence and gallbladder and biliary ducts free of any pathologic changes.

It was very important to find that the patient had suffered from similar difficulties (though not so strong) intermittently for several years.

The operation from upper-middle laparotomy was performed immediately. The whole epigastrium was filled with dilated stomach. Derotation of the combined type of volvulus was performed under uneasy conditions. The stomach tube was manually placed into the correct position, because before the operation it had reached only to the level of cardia. Fundus of the stomach was fixed by distal surface adhesion to the abdominal wall. After dissecting the adhesions it was possible to put the stomach to the normal anatomic position. After that there was a clearly visible gap between the arms of esophageal hiatus. That defect was re-



**Fig. 1:** Contrast X-ray without introduced stomach tube. The image shows distally convoluted stomach fundus, and under the left diaphragm there is dilated stomach body.



**Fig. 2:** Contrast X-ray after introduction of the stomach tube. The tube reaches to the level of cardia. The contrast medium has moved into distal part of the stomach.

duced by two sutures. Also the abdominal part of the esophagus was free; the Hiss's angle was straightened. Therefore the antireflux fundoplication according to Nissen-Rosseti was performed. The remaining part of the stomach fundus and the stomach body were fixed to the diaphragm and to anterior abdomen wall by sutures as frontal gastropexy. The stomach tube remained in the stomach until the peristalsis was restored (i.e. the third day after operation).

The postoperative course was without complications, the incision was healed p.p.i., control stomach X-ray was normal, without any symptoms of gastroesophageal reflux. The usual diet regime followed after the patient's dismissal. During the control (5 weeks after the operation) she did not mention any dyspeptic difficulties. X-ray of stomach was without any pathologic changes.

### Discussion

The surgical revision is indicated for the treatment of the acute stomach volvulus. In cases presented in the case-histories in literature there was mentioned that after the operation the hiatus hernia was proved (8). Therefore the antireflux surgical operation is necessary to be performed (3).

In some cases presented in literature the disorder is solved only by derotation of the stomach and damage of the perigastric adhesion only, without the following gastropexy (10). Because of possible recurrence of the volvulus the various kinds of gastropexy (Tanner, Maingot, Opolzer, etc.) are being recommended (5,11,12).

In case the secondary type of volvulus is concerned, the surgical solution is aimed to eliminate the cause. According to the literature (1) it is possible to solve the stomach volvulus by endoscopy. But usually it is not possible to reach the final solution and the volvulus recurrence is very common. Endoscopy can be connected with parallel laparoscopy.

In our case the situation was complicated by big dilatation of the stomach and it was very difficult to perform the exact antireflux plastics and gastropexy. In the presented case we derotated and desufflated the stomach and we freed it from the adhesion.

Then we reduced the size of esophageal hiatus and we performed the antireflux fundoplication according to Nissen-Rossetti. The operation was finished by frontal gastropexy. Performance of antireflux plastics in gastroesophageal junction has been mentioned by other authors,

too (4,6). This method should be performed especially during the operation when it is clear that the patients may possibly have problems with hiatal hernia or gastroesophageal reflux in the future.

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