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Acute Gastric Volvulus at Adult Young

Riyad A*, Louzi A, Rabbani K, Finech B

General Surgery Department, Arrazi Hospital, Mohammed VI University Hospital Center, Marrakech

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***Corresponding author:** Riyad A

Abstract **Case Report**

Gastric volvulus is a rare entity, described for the first time by Berti in 1866 [1]. The most complete definition of the gastric volvulus, used until today was introduced by Hilleman's in 1955 [2]. Therefore, gastric volvulus is defined by an abnormal rotation of all or part of the stomach, creating a condition of a high occlusion with gastric dilatation and a high risk of strangulation. Considered as a surgical emergency in its acute form, it can meet at any age but seems more common in the elderly most likely due to ligament laxity [1]. The symptomatology is nonspecific making the diagnosis difficult. We report the observation of a gastric volvulus in a 21-year-old boy, suspected clinically radiologically and confirmed intraoperatively. The treatment was surgical consisting of a detorsion and fixation to prevent recurrence.

Keywords: Gastric volvulus, surgical treatement.

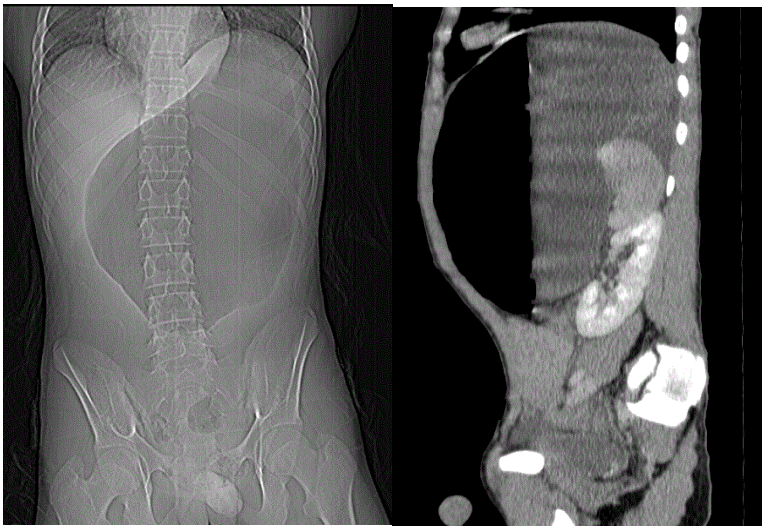
INTRODUCTION

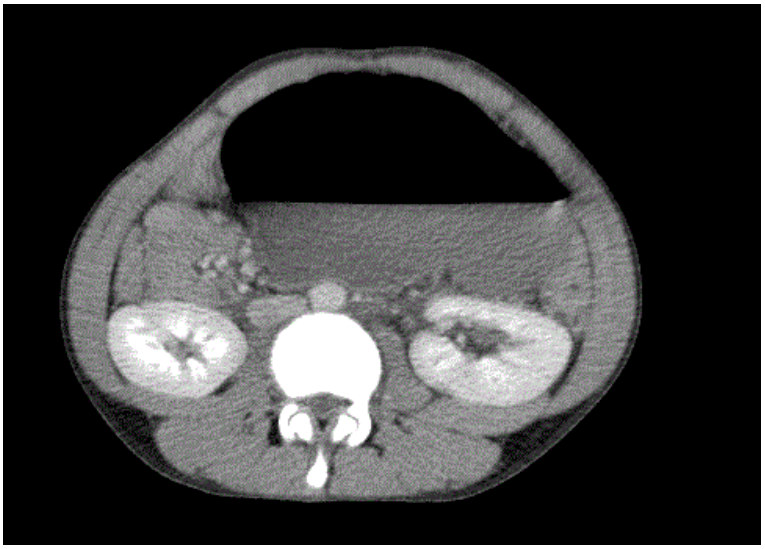
Acute gastric volvulus is a rare surgical emergency, achieving a high digestive occlusion by twisting the stomach by at least 180°. The diagnosis is often delayed due to the lack of specific of symptoms. Abdominal CT scan currently helps occupies an important place in the positive diagnosis. The treatment is always surgical.

Patient and observation

We report the case of a 21 years old patient without any particular pathological antecedents, who brutally presented an acute abdominal pain without any trauma. The patient has been vomiting for the past 12 hours without any stools or gas changes. The clinical examination found an apyretic patient, a slightly distended abdomen, without any contracture or defense. The digital rectal examination was normal. No abnormalities were found in blood evaluation.

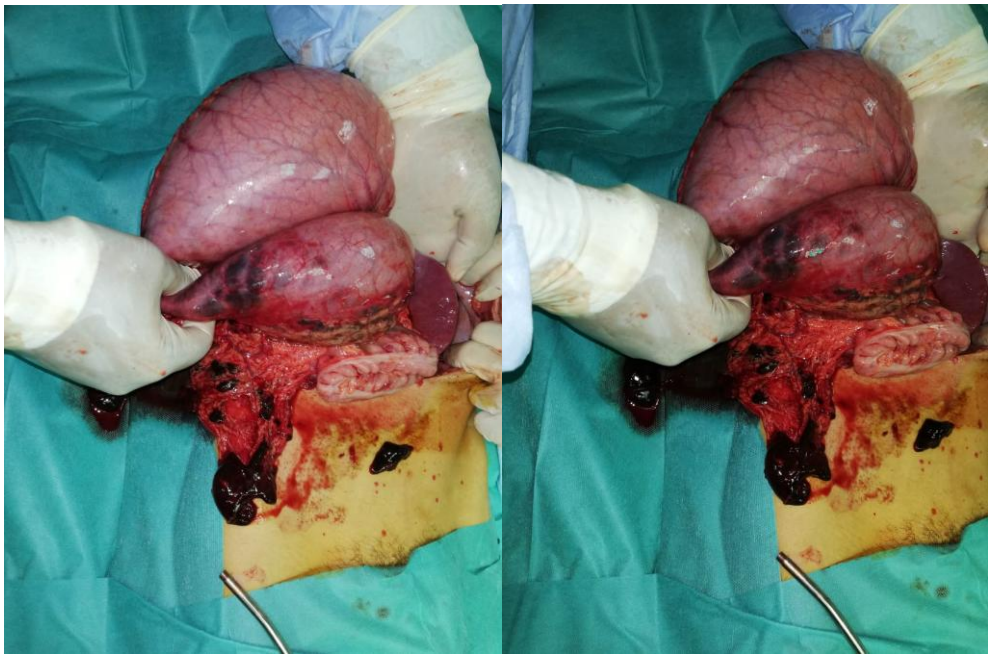
The emergency abdominal CT scan showed an important distension with gastric stasis, seats of a hydroaeric level. Spleen, pancreas and digestive loops were repressed by the gastric distension.





Open surgery confirmed the diagnosis of the gastric volvulus type oganoaxial with ischemic areas of the gastric wall testifying of a vascular suffering. Volvulus was linked to an absence of different means of fixation of the stomach with a wandering spleen.

The treatment performed by an up umbilical medial laparotomy consisted of a detorsion bringing the stomach back to its normal position with fixation of the stomach to the anterior abdominal wall and the diaphragm to avoid a possible recurrence. Immediate post-operative suites were normal.



DISCUSSION

Gastric volvulus is a rare abdominal emergency (1), because of its solid means of fixation, represented by four ligaments: gastro-splenic, gastrophrenic, gastrohepatic and gastro-colic. However, its frequency is probably underestimated because spontaneously resolving forms are possible [3]. Gastric volvulus is often associated with other intra-abdominal abnormalities (including gastric, splenic, diaphragmatic and hepatic) [4; 5], as shown in the original description reported by Ambroise Paré in 1957. The gastric volvulus was associated to a diaphragmatic rupture secondary to a stab wound [6]. The existence of a diaphragmatic abnormality is an essential factor in the occurrence of gastric volvulus. However in very rare cases volvulus can be idiopathic (a), said primary forms, observed in 30% of cases. Other cases are considered secondary forms [7].

Idiopathic volvulus is often associated with hyperlaxity of the stomach fixation means [3] and is observed in the elderly with a clear male predominance [8; 9; 10]. It should be noted that gastric repletion is a classically recognized risk factor [3]. In our case the

spleen was without significant fixation means including no gastrosplenic ligament, a situation called "Wandering Spleen". Four anatomical forms of gastric torsion can be reported, two of them are major. The first is called organoaxial, its rotation occurs around the cardiopyloric axis –the case of our patient. The second most common form called mesentericoaxial, its rotation is along a longitudinal axis of the small epiploon [3, 11, 12]. We can also describe a so-called combined form and an unclassifiable form [13].

In most cases the rotation is anterior. The great curvature moves from left to right and from bottom to top in the organoaxial rotation; the antrum swings from bottom to top and from right to left in mesentericaxial rotation [3].

The clinical picture is not specific [14, 15], often made of an occlusion or an abdominal pain as in our case. The Borchardt's triad is evocative, associating a major epigastric pain radiating towards the back and/ or the hypochondrium or the left hemithorax, ineffective vomiting efforts, absolute food intolerance with difficulty or impossibility of setting up a nasogastric tube [16].

Abdomen Xray and chest X-rays are usually not very contributive, they can show gaseous distension of the upper abdomen, retrocardial hydroaeric level in case of associated hiatal hernia, and sometimes emphysema of the gastric wall [1]. The esogastroduodenal transit is often difficult to perform [3]. This examination aims to study the reducibility of the gastric volvulus, its position, its anatomical form and the antropyloric evacuation of the contrast product [2, 17].

Before the advent of abdominal CT scan in the diagnosis of abdominal pain, the diagnosis of certainty was made intraoperatively [3]. Little work has been done on the role of CT in acute gastric volvulus, and its interest in such circumstances has been underlined by multiple authors [18; 19]. It currently occupies an important place in the positive diagnosis, thanks to the multi-planar reconstructions [3], its aspect can vary according to the degree and the points of torsion [20]. It is useful at the same time to recognize the torsion of the stomach, eliminate another abdominal pathology: it also helps guide a possible surgical procedure according to the severity of the clinical condition. Highly suggestive aspect of gastric volvulus associates marked gastric water distension and a zone of tissue thickening, with vascular congestion, separating a purely aeric from another hydric contingent. The nasogastric tube crosses the hydric part; its course is well followed on the successive cutting levels [21]. Magnetic resonance imaging seems to provide the same benefits as computed tomography with a higher cost [2].

Complications are gastric necrosis or acute peritonitis by gastric perforation in free peritoneum.

The treatment is always surgical, it is urgently needed as soon as the diagnosis is made or even suspected. It aims to unravel the stomach [3].The surgical procedure includes an emergency detorsion with gastropexy combined to the cure of a possible associated lesion [3]. At present, the laparoscopic technique is being used more and more, which allows at the same time the diagnosis and the treatment of this rare situation [15, 22].

Must he fix the stomach? : The purpose of gastropexy is to fix the stomach to nearby structures. This attitude is controversial by some authors who report good long-term results without gastropexy regardless of the conventional or laparoscopic approach [2].

CONCLUSION

Acute gastric volvulus is a surgical emergency, often difficult to diagnose. It is evoked on a cluster of clinico-radiological arguments. The treatment of choice remains surgical, preferably laparoscopic and the treatment of etiology is obligatory.

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