

Gastric Polyp: A rare cause of Chronic Volvulus in an Adult

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ABSTRACT

Gastric volvulus is a rare but potentially life-threatening cause of upper gastrointestinal obstruction. It presents clinically with epigastric pain radiating to the back and or left thoracic area or left abdominal quadrant and retching.

This is a case of a 60 years old woman, who had a six-years history of an episodic epigastric pain related to meals. The pain was equally brought about by recumbence and relieved by decumbency. Three months prior to admission, her pain got worse and it was associated with vomiting. Abdominal ultrasound showed a gastric outlet soft tissue mass. Barium meal revealed a huge filling defect at the pyloric antrum. Oesophagogastroduodenoscopy showed a twisted gastric mucosa, brought about by a huge pedunculated gastric polyp. She was labelled to have a gastric volvulus and showed a good response to the conservative management. Surgical opinion was sought with the possibility of polypectomy and gastropexy. Surgery was postponed because she went into a hypertensive cardiac failure. We concluded that by twisting and de-twisting, gastric polyp may cause gastric volvulus that runs a chronic course. Therefore it has to be included in the differential diagnosis of chronic abdominal pain.

Key words: Gastric Volvulus, Gastric Polyp, Abdominal Pain, Sudan.

The term volvulus is derived from the Latin word *volvere*, meaning to turn or roll. Gastric volvulus is defined as an acquired rotation of the stomach or part of it thereof more than 180 creating a closed loop obstruction¹. Though rare, gastric volvulus is an emergency that warrants immediate correction. Common complications are necrosis, perforation and hypovolemic shock². The peak age of incidence is fifth decade of life³ but there are over 100 reported pediatric cases⁴.

Gastric volvulus is classified according to the axis of rotation. In the organo-axial type, the stomach is rotated along transverse axis. This is reported in 60% and it is associated with para-oesophageal hernias. Mesoentero-axial type is less commonly seen and is characterized by rotation of the stomach to the lesser and greater omentum along the plane of the mesenteric attachments. The third and rarest is a combination of the above types⁵⁻⁷.

Borchardt triad is reported in 70% of gastric volvulus cases. It presents with 1) epigastric pain radiating into the back and or left thoracic area or left abdominal quadrant, 2) retching and 3) difficulty in passing a nasogastric tube⁸.

In children, causes of gastric volvulus include gastric tumor or tumor-like formation (lymphosarcoma, polyp, cyst and duplication, carcinoma, inflammatory pseudotumor, fibromatosis, lymphangioma)⁹, but gastric polyps are rarely reported as a cause of gastric volvulus in adults.

Currently, there is no available published data on gastric polyps as a cause of gastric volvulus among adult Sudanese subjects.

CASE REPORT:

A 60 years-old woman presented to our medical department with a six-year history of episodes of mild epigastric pain. The pain, which tended to appear 10 to 15 minutes after food consumption, lasted for about 10 to 25 minutes before subsiding. She noticed that it was equally brought by adopting a recumbent position and improves with ventral decumbence. Three months later it became very frequent, gripping, interfering with her

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sleeping and associated with vomiting immediately after meals. She had no other gastrointestinal symptoms. She is a known hypertensive for one month, controlled by amlodipine. Her social history revealed that she is a mother of 5 sons and 6 daughters. On examination the patient was found to be gravely ill, grasping her abdomen from pain with moderate dehydration. Her pulse was 94/m and BP 140/90. Upper abdomen was moderately distended with moderate tenderness and mild rigidity. Liver and spleen were not palpable. There was no obliteration of liver dullness, visible peristalsis or ascites. Digital rectal examination was found normal. The initial clinical impression was vomiting and dehydration, probably secondary to acute gastritis or gastric outlet obstruction. At this point a 1000 ml of normal saline fluid bolus was initiated. IV omeprazole and anti-emetics were provided. Her leukocyte count was 5.8×10^9 /microliter with 80% neutrophils. Serum sodium was 131meq/L, potassium 4.4meq/L. Her serum creatinine and BUN were 16mg/dl and 0.7mg/dl, respectively. The remainders of her laboratory results, including liver function tests were normal. Abdominal ultrasound showed a 7x4cm gastric outlet hypoechoic soft tissue mass, suggestive of a malignant tumour. Barium meal showed a huge filling defect reaching the pyloric antrum, suspicious of a malignant tumour (Figure.1).



Figure.1: Barium meal showing a huge gastric defect (arrowed).



Figure.2: Endoscopy showing a twisted gastric mucosa.



Figure.3: Endoscopy showing a huge pedunculated gastric polyp. Oesophagogastroduodenoscopy was rather difficult at first and it showed a twisted gastric mucosa (Figure2). After insufflation of good amount of air showed, a huge pedunculated gastric polyp arising from the greater curvature was encountered. It was filling most of the gastric lumen and reaching the pyloric antrum (figure.3). Biopsy and

histopathology were consistent with a benign hyperplastic polyp.

DISCUSSION:

Gastric volvulus is an abnormal rotation of the whole or part of the stomach. Acute gastric volvulus was first described by Berti in 1866 as an abdominal emergency; he reported the postmortem findings in 60 years female⁸. The features of acute gastric volvulus were described by Borchardt (1904) as abdominal pain, excessive vomiting or retching and failure to pass a nasogastric tube. Some of these features were manifested in this patient. Retrospectively, the patient had symptoms of vague abdominal pain and boating for six years, which were consistent with the character of chronic gastric volvulus. Due to the vague manifestation of its chronic type, most often the symptoms were attributed to peptic ulcer and this has delayed the diagnosis.

The signs and symptoms of gastric volvulus depend upon the rate of onset, the degree of rotation, the chronicity, the degree of obstruction and whether the volvulus is above or below the diaphragm¹⁰. In a review made by Jacob for 38 cases, he found that: abdominal pain and vomiting were the two most common presenting symptoms of patients with acute and chronic gastric volvulus. Chronic presentation was seen in 34 cases (89.5%), while the acute type was seen in four cases (10.5%)¹¹. No gastric polyps were reported in his series.

Gastric volvulus can present with cardiovascular symptoms like chest pain that radiates to the back⁷. Dyspnoea was reported by Rathore et al¹².

This patient presented with repeated abdominal pain that was brought about by recumbence and improved with ventral decubence. This could be attributed to twisting and de-twisting of her huge gastric polyp. This was noticed by Jacob et al in his case series, where 14 of his patients, presenting with acute and chronic gastric volvulus improved by adopting ventral decubence¹¹.

Gastric volvulus is diagnosed by seeing

intrathoracic viscera in chest radiograph, followed by a barium contrast study or upper gastrointestinal endoscopy¹⁰. According to the study of Teague; barium studies are most reliable, being diagnostic in 14 of 25 observed cases, while GI endoscopy diagnosed 5 of 18¹⁰. Barium meal of this patient showed a huge gastric filling defect, suggestive of a tumour. The patient was diagnosed to have a gastric volvulus by endoscopy, which was caused by a huge gastric polyp. She responded well to the conservative management. Surgical opinion was sought and the possibility of polypectomy with gastropexy was discussed, but surgery was postponed because she went into a hypertensive cardiac failure.

Regardless of whether volvulus is acute or chronic, surgical conduct is the treatment of choice once volvulus has been confirmed as the diagnosis responsible for the clinical presentation¹¹. Although endoscopic reduction has been described, it is usually treated by open surgery or by a laparoscopic approach¹³. The surgical management of gastric volvulus requires de-rotation, reduction of the hernia contents into the abdominal cavity and repair of hernia defect¹⁴.

CONCLUSION:

By twisting and de-twisting, gastric polyp may cause a gastric volvulus that runs a chronic course. Therefore, it has to be included in the differential diagnosis of chronic abdominal pain.

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