

# Gastric Volvulus: A Small Series Report

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**Abstract:** In Zambia, Sigmoid Volvulus is one of the most common presentation and yet those of Gastric Volvulus are rare condition in the country but they do occur. Gastric Volvulus is a rare clinical entity too. It is defined as an abnormal rotation of the stomach of more than 180°, creating a closed-loop obstruction that can result in incarceration and strangulation. The many cases of chronic Gastric Volvulus are not diagnosed; the incidence and prevalence of Volvulus are unknown. Males and females are equally affected. About 10-20% of cases occur in children, usually before the age of 1 year, but our youngest patient we have reported was as young as 16 years of age. Gastric Volvulus in children; is often secondary to congenital diaphragmatic defects. It is generally believed that the condition is uncommon in adults younger than 50 years but our findings have presented a very different presentation. Here is presented the few cases we have seen in the Chingola mine hospitals and the Ndola central hospital over a period of fifteen years spread on the two hospitals from June 2000 to the end of June 2015. Over 15 years only seven patients came into our care. They were all females and no males at all. The youngest was 16 years old and the oldest was 45 years old. The major presenting complaints was of upper abdominal pain and it was for a long time; the periods running over years.

**Keywords:** Age, Gastric, Series, Volvulus.

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## 1. INTRODUCTION

In Zambia, Sigmoid Volvulus is one of the most common presentation and yet those of Gastric Volvulus are a rare condition in the country.

This report serves to remind us that Gastric Volvulus though rare; it does occur in Zambia.

### 1.1. Patients and Methods:

Here is presented the few cases we have seen in the Chingola mine hospitals and the Ndola central hospital over a period of fifteen years spread on the two hospitals from June 2000 to end of June 2015.

It was a prospective study

## 2. RESULTS

Over 15 years only seven patients were seen. They were all females and no males at all. The youngest was 16 years old and the oldest was 45 years old (see Tables I and II).

All the patients complained of upper abdominal pain; this pain went on running for long times. The pain would be increasing in intensity over the months and years( see Table II).

The pain was non radiating, described as biting in nature. The pain came on suddenly particularly in the evening. However it could come on at any time during the day. During the bout of pain the patients could not assume erect posture, felt weak and had lots of noise in the abdomen. There were no known aggravating factors but they got some relief from lying down. There was no relation to food intake.

There was no history of vomiting diarrhea, constipation or melena. Systems review generally yielded no significant history.

In the past medical history, the patients had no significant illnesses, but one had an incomplete abortion for which she had evacuation of retained products of conception.

The physical examination revealed no pallor, no lymphadenopathy, and no jaundice. pulse and blood pressures were normal. Their epigastria were tender. They had no masses in the abdomen.

The other systems were normal.

In management; they initially received anti acids which did not improve their condition.

When routine investigations of Hb, WBC, ESR and Stool were done; the results were normal.

Barium meal studies were done in four patients. The results showed ptosis of the stomach, but no gastric or duodenal mucosal pathology was demonstrated. Gastric torsion was therefore suspected. In one patient the condition was suspected at endoscopy because of a large floppy stomach which was difficult to intubate. ( see Table II).

In two patients the pain was severe enough to warrant a laparotomy as an investigation.(see Table I).

Three patients were from the same family: JC had two daughters; M and C; who presented with Gastric Volvulus conditions (see Table I and II).

### 2.1. Laparotomy Findings:

The following were the findings:

A large and long[tubular] loosely attached stomach was found in all the patients, all the ligaments attached to the stomach were loose the stomach was only supported at the cardia and the pyloric end the result was that the stomach could be easily drawn out of the abdomen through the laparotomy incision. The diaphragm was normal in all the cases. In all the cases the kidneys were highly mobile in the retroperitoneal space. The Uteruses could be pulled up to the epigastria due to the lax ligaments.

A Bilroth Type I Partial gastrectomy was performed and the patients did well post operatively. In the patient who went through surgery; it was clear after a while that they had no pain and some gained weight.

## 3. DISCUSSION

Gastric volvulus is a rare entity. It occurs more frequently in the elderly with a hiatus hernia and only in 10-20% in infants and children<sup>(9)</sup>. Berti first described gastric volvulus in a female autopsy patient in 1869. Years later, in 1896, Berg performed the first successful operation for this condition. In 1904, Borchardt described the classic triad associated with Gastric Volvulus namely; severe Epigastric pain, retching without vomiting and the inability to pass a nasogastric tube.

The many cases of chronic Gastric Volvulus are not diagnosed; the incidence and prevalence of Volvulus are unknown. Males and females are equally affected. About 10-20% of cases occur in children, usually before the age of 1 year, Gastric Volvulus in children; is often secondary to congenital diaphragmatic defects.

This paper seems to present a slightly different picture. Our youngest patient was 16 years old and the oldest was 45 years old.

A clinical diagnosis is not usually easy but the condition should be suspected in a patient who presents with abdominal pain and distension, unproductive vomiting. Insertion of a nasogastric tube can be difficult in these patients<sup>(4,5)</sup>. In all our patients; they complained of upper abdominal pain; this pain went on running for long times. The pain would be increasing in intensity over the months and years.

Most writers suggest that a computed tomography scan is highly useful as it may provide useful cases of reports, clearly demonstrating the power of upper gastrointestinal contrast studies in establishing a definitive diagnosis<sup>(4)</sup>. In our patients we carried out the Barium meal studies. This was done in four patients. The results showed ptosis of the stomach, but no gastric or duodenal mucosal pathology were demonstrated

The most frequently used classification system of Gastric Volvulus, proposed by Singleton<sup>(6)</sup>, relates to the axis around which the stomach rotates and includes the following three types: Organ axial, Mesenteroaxial and the Combined. In our seven patients, four of the patients underwent through surgery and in these we met the Organ axial gastric volvulus

In the organ axial Gastric volvulus, the stomach rotates around an axis that connects the gastroesophageal junction and the pylorus. The antrum rotates in opposite direction to the fundus of the stomach.

This is the most common type of gastric volvulus, occurring in approximately 59% of cases<sup>(6)</sup>, We feel in all our seven patient they had this type of Gastric volvulus. It is usually associated with diaphragmatic defects but we never saw it in all our seven patients. Strangulation and necrosis commonly occur with organoaxial gastric volvulus and have been reported in 5-28% of cases<sup>(5,8)</sup>. Fortunately it never occurred in our seven patients.

The mesenteroaxial axis bisects the lesser and greater curvatures. The antrum rotates anteriorly and superiorly so that the posterior surface of the stomach lies anteriorly. The rotation is usually incomplete and occurs intermittently. Vascular compromise is uncommon. This etiology accounts for approximately 29% of cases of gastric volvulus<sup>(6)</sup>. This is a record we have read about but it never occurred in our patients

Patients with mesenteroaxial gastric volvulus usually present without diaphragmatic defects and usually have chronic symptoms.

The combined type of gastric volvulus is a rare form in which the stomach twists both mesenteroaxially and organoaxially<sup>(7)</sup>. This type of gastric volvulus makes up the remainder of cases and is usually observed in patients with chronic volvulus<sup>(7,8)</sup>.

The family history is also suggestive of this condition running in families,. we present One family in which this condition occurred; JC was a mother of nine children who were all alive and well, two of her daughters had the same symptoms she had, one M underwent laparotomy and was found to have the same findings as her mother( see table I).

In terms of Social history there was no special presentation in all our patients: The patients were from different social backgrounds; two were housewives of whom one was in a polygamous marriage. One was in formal employment two were school girls. All the patients did not take alcohol or smoke. There were no significant illnesses in their families

#### 4. CONCLUSION

With the Gastric Volvulus it is generally believed that the condition is uncommon in adults younger than 50 years but our findings have presented a very different presentation. Our youngest patient was 16 years old and the oldest was 45 years old.

A computed tomography scan which is highly useful may have provided useful cases of reports, clearly demonstrating the power of upper gastrointestinal contrast studies in establishing a definitive diagnosis. In our patients we carried out the Barium meal studies. This was done in four patients. The results showed Ptosis of the stomach, but no gastric or duodenal mucosal pathology were demonstrated

A Biloroht Type I Partial gastrectomy was performed in four of the seven patients. The patients did well post operatively. In these patients who went though surgery; it was clear after a while that they had no pain and some gained weight.

The other thing which has surprised us is the lack of men in this condition; we have had seven patients and all of them were females. We would also propose that this condition proposes a family condition.

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**APPENDIX - A**

**Table I. Patients operated upon for Gastric volvulus**

Name	Sex	Age	Indication for laparotomy	Pre operative diagnostic investigation
JC	Female	41	Abdominal Pain long standing	Barium meal
M (Daughter of JC)	Female	20	Abdominal Pain long standing	Barium meal
GN	Female	16	Acute on chronic severe Abdominal pain	None
MCB	Female	27	Abdominal Pain long standing	None

**Table II. Patients diagnosed as Gastric volvulusbut not operated upon**

Name	Sex	Age	Presenting complaint	Mode of diagnosis
C(Daughter of JC)	Female	24	Epigastric pain	Barium. meal
NN	Female	45	Abdominal pain	Barium meal
AS	Female	30	Epigastric Pain	Endoscopy



**Figure 1: Gastric Ptosis of the stomach**



**Figure 2: Long Stomach**