



## A CLINICAL STUDY AND VARIOIUS TYPES OF MANAGEMENT OF SIGMOID VOLVULUS

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**ABSTRACT** Colonic volvulus occurs most common in sigmoid colon as a result of bowel twist in along its mesenteric axis. In contrast, the pathophysiology is poorly understood, with the prevailing hypothesis being altered regulation of colonic function by the autonomic nervous system resulting in colonic distension in the absence of mechanical blockage. Prompt diagnosis and intervention leads to improved outcomes for both diagnosis. This study involves the clinical course and manifestations of sigmoid volvulus and their various methods of treatment with their respective outcomes. This is a prospective study conducted among 40 patients admitted in department of Surgery, Santhiram medical College and General Hospital, Nandyal between NOVEMBER 2020 to JUNE 2022 were studied according to a proforma. Of which 7.5% of the patients underwent sigmoidopexy where as 77.5% underwent primary resection and end to end anastomosis and 15% underwent Hartman's procedure.

**KEYWORDS :** Sigmoid volvulus, Sigmoidopexy, Primary resection and End to end anastomosis, Hartmans procedure.

### INTRODUCTION:

Sigmoid volvulus is a common cause of acute large bowel obstruction and is a common surgical emergency and a frequently encountered problem in abdominal surgery. It constitutes a major cause of morbidity and financial expenditure in hospitals around the world and a significant cause of admissions to emergency surgical departments. Etiology of this condition is speculative and is a most common in frail and old patients. Sigmoid volvulus is a leading cause of acute colonic obstruction in south America, Africa, Eastern Europe and Asia, but is rare in developed countries such as North America, U.K., Japan and Australia.

This study involves the clinical course and manifestations of sigmoid volvulus, and the various methods of treatment in reducing the mortality rate in patients admitted in surgical wards of SHANTHIRAM MEDICAL COLLEGE AND GENERAL HOSPITAL.

### AIMS AND OBJECTIVES:

1. To study the clinical course and manifestations of sigmoid volvulus.
2. To study the various methods of treatment of sigmoid volvulus.
3. To study the outcome of the disease by employing various methods of treatment.

### MATERIALS AND METHODS:

This is a prospective study that was carried out on the patients who attended to casualty and surgical op admitted in surgical ward, in Shanthiram Medical College and General hospital, Nandyal.

The present study is a detailed study of 40 cases of Sigmoid Volvulus, carried out with regards to the aetiological factors which predispose to the Sigmoid volvulus, the clinical features, modes of treatment and the outcome.

### INCLUSION CRITERIA:

1. All the patients who are coming to emergency department at SHANTHIRAM MEDICAL COLLEGE AND GENERAL HOSPITAL presenting with large bowel obstruction due to sigmoid volvulus.
2. Patients who have given written informed consent.

### EXCLUSION CRITERIA:

1. All large bowel obstruction other than sigmoid volvulus.
2. Patients who absconded or expired before the surgery.
3. Patients who have not given consent for the study.

### RESULTS:

#### CLINICAL MANIFESTATION:

Symptoms	No. of patients	Percent
Pain in abdomen	30	75%

Distension of abdomen	40	100%
Constipation	37	92.5%
Vomiting	19	47.5%

In this study of 40 cases, distension is present in 40 pt and 30 with pain abdomen.

### AGE INCIDENCE:

- 21-30 yrs -- 5 patients (12.5%).
  - 31-40 yrs -- 8 patients (20%).
  - 41-50 yrs -- 10 patients (25%).
  - 51-60 yrs -- 9 patients (22.5%).
  - 61-70 yrs -- 5 patients (12.5%).
- Most of patients presented in between 31 – 60 years.

### SEX INCIDENCE:

The ratio of male and female is 4.7:1 in this study. Males (82.5%) are affected more than females (17.5%).

### Comparison of gangrenous Vs Duration:

- 12 patients presented < 48 hrs, had gangrenous sigmoid colon in 3 cases (25%).
- 28 patients presented > 48 hrs, had gangrenous sigmoid in 15 cases (53.5%).

### TYPES OF SURGERIES PERFORMED AND THEIR OUTCOMES

Procedure	No. of patients	Viable bowel	Gangrenous sigmoid	percentage	cured	Expired
Sigmoidopexy	3	3	-	7.5%	2(66.6%)	1(33.3%)
Primary resection and end to end anastomosis	31	19	12	77.5%	28(90.3%)	3(9.6%)
Hartmann's procedure	6	-	6	15.0%	4(66.6%)	2(33.3%)



**Sigmoid volvulus with gangrene without gangrene**

% of Sigmoid volvulus diagnosed based on investigations :

1. X ray erect abdomen ----- 40 cases --- 100 %
2. X ray erect + USG abd ----- 10 cases --- 25 %
3. X ray erect + USG abd + CECT abd ----- 2 cases ---- 5% .

#### DISCUSSION:

- Sigmoid volvulus is one of the common life threatening surgical emergencies and is one of the important differential diagnosis of large bowel obstruction.
- In the present study 80 cases of large bowel obstruction were studied among them 40 cases were due to sigmoid volvulus. This high incidence of sigmoid volvulus among large bowel obstruction patients is due to irregular bowel habits with consumption of high fibre diets which appear to overload the sigmoid colon and eventually rotate around its mesentery.
- In the present study the common age group was 41 to 50 years. The mean age in our study was 45.3 years which is similar to study by De U et al[1].
- According to Ballentyan G.H[2] et al . the mean age is 68.5 years. According to Connolly S et al[3] , the mean age is 78 years.
- The male to female ratio in patients with sigmoid volvulus is variable. But the literature indicates that there is a general male preponderance and in females it is low because of wide pelvis.
- In the present study M:F ratio is 4.7:1 whereas in the study conducted by Kisa Pet et al[4] and Rennie JA [8](5.3:1) and (5.6:1), respectively. In the study conducted by Ballantyan GH et al[2]. the M: F ratio is 1.4:1.
- There are two basic problems in management of the patients. That is a high incidence of recurrence of sigmoid volvulus after the commonly performed procedures such as rectal tube deflation, sigmoidoscopic deflation. Laparotomy and simple derotation, and operative derotation and fixation of the "omega loop" to the lateral or anterior abdominal wall or the transverse colon. High incidence of postoperative recurrence has been noted by Shepherd Anderson JR, Lee D.
- Diaz plasencia et al[5] subjected 15.4% of patient for this treatment and found 100% cure rate. In our present study 7.5% patients underwent Derotation and fixation to abdominal wall procedure with 66.6% cure rate.
- In our present study 77.5% of patients underwent primary resection and end to end anastomosis with cure rate 90.3% and mortality 9.6%. All the 3 patients who died were having gangrenous bowel.
- Diaz plasencia et al[5] subjected 56.9% of patients for primary resection and end to end anastomosis and found 87% cure rate and 13% mortality. People's J.B. et al[33] study subjected 47.5% of patients for this treatment however 73.7% of patients were cured and 26.3% mortality.
- In present study 15% of patients were subjected to Hartmann's procedure with cure rate of 66.6% and mortality in 33.3%.
- Diaz plasencia et al[5] subjected 28.7% of patients to Hartman's procedure and found 68.6% cure rate and 37.4% mortality. People's J.B et al[6] study 26.6% of patients were subjected to Hartmann's procedure 87% cure rate and 13% mortality.
- In Diaz plasencia J, Rebaza Iparraguirre et al[7] study 58% of patients were subjected to Hartmann's procedure, 72% were cured and 28% mortality.
- In present study 15% of patients were subjected to Hartmann's procedure with cure rate of 66.6% and mortality in 33.3%.
- In the present study of 40 cases of sigmoid volvulus various types of surgeries were conducted. Least mortality was seen in the group of primary resection and end to end anastomosis. But Hartmann's procedure and sigmoidopexy were done in less number of patients to compare.

- The overall mortality is less in viable bowel compared to the gangrenous bowel.
- In the present study post operative leak developed in 2 patients which was managed conservatively

#### SUMMARY AND CONCLUSION:

A study of 40 cases of sigmoid volvulus that was conducted in SANTHIRAM MEDICAL COLLEGE AND GENERAL HOSPITAL. The following conclusions can be drawn from the present study.

1. Sigmoid volvulus is more common in males than in females and highest incidence is in 4th and 5th decade of life. Sigmoid volvulus constituted 50% of the total large bowel obstruct
2. In viable bowel, primary resection and anastomosis of sigmoid volvulus is feasible even in unprepared bowel as this may not effect outcome.
3. X ray abdomen erect is enough in almost all cases to diagnose the sigmoid volvulus.
4. Most of the patients present acutely and therefore immediate resuscitation and surgical intervention will greatly improve survival.
5. Though the disease carries a high mortality, most of the patients who die are either elderly, have co-morbid conditions or both.

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