

## A Clinical Study of Intestinal Stomas, Their Complications And Management.

Asso Prof Dr.P.Sumathi M.S<sup>1</sup> Asso Prof Dr.Raja Ashok M.S<sup>2</sup>.,  
Prof Dr.N.Tamilselvan<sup>3</sup> M.S,

<sup>1</sup>(Assistant Professor, Department Of General Surgery, Government Mohan Kumaramangalam Medical College, Salem, Tamil Nadu, India.)

<sup>2</sup>(Assistant Professor, Department Of General Surgery, Government Mohan Kumaramangalam Medical College, Salem, Tamil Nadu, India.)

<sup>3</sup>(Assosicate Professor, Department Of General Surgery, Government Mohan Kumaramangalam Medical College, Salem, Tamil Nadu, India.)

---

### Abstract

**Background And Objectives:** Intestinal stoma is a very commonly performed procedure with a high rate of complications. This study was undertaken to study the various types of complication in different types of intestinal stomas and their management.

**Methods:** Complication was studied in % patients undergoing intestinal stoma formation in Government Mohan Kumaramangalam Medical College Salem between December 2014 to December 2015. Both elective and emergency procedures were included in the study. Data was collected by following up the patient postoperatively and also review in outpatient department

**Results:** Various complications in each stoma types were studied complication rate in emergency and elective stoma was studied.

**Interpretation And Conclusion:** Stoma formation is associated with high rate of complication. End colostomy is associated with highest complications. Complications are more during emergency procedure. Local sepsis is the most common and most difficult complication to treat. Loop colostomy has less complication than loop ileostomy.

**keywords:** end colostomy , , loop colostomy , loop ileostomy ,intestinal stoma, , parastomal hernia.

---

### I. Introduction

Gastrointestinal and urinary tract is connected to abdominal wall by an surgical created opening is called stoma. A connection of skin of abdominal wall to colon is called colostomy. A connection of ileum to skin of abdominal wall is ileostomy. Connection between colon to skin is called colostomy. Jejunostomy is exteriorization of jejunum to abdominal skin. The use of stoma on the abdominal wall that convey urine to an appliance kept on the skin is called urinary conduit. A segment of intestine or direct ureteric implantation or bladder on abdominal wall is called conduit. Information about the types and number of stomas constructed, complication of stoma and resultant impairment of individual life has been limited because of the diseases for which the stomas are constructed are not mandated as reportable in India. There are indications for which stomas, both ileostomy and colostomy are constructed like perforation, obstruction and in cases of carcinoma rectum etc.,This procedure was started 190 years ago. It is a life saving procedure.

### II. Objectives

1. To study the various types of intestinal stomas and their indication
2. To study the various complications encountered that occurred after construction of intestinal stoma
3. To study the ways in which these complication can be managed and minimised in better way
4. To study the implications of socio economic status among the patients with stomas.

### III. Materials And Methods

This clinical study was conducted on 50 patients undergoing intestinal stoma construction at Government Mohan Kumaramangalam Medical College And Hospital and as an elective or as an emergency procedure during the period of December 2014 to December 2015.

Data was collected from patient records maintained by department of surgery from operation notes and patient case records.

Followup was done by patient review to outpatient department.

---

**Inclusion Criteria:**

1. All patient male and female between 15-70 years, in whom a followup of 6 months is feasible.
2. All emergency and elective cases undergoing intestinal stoma construction.

**Exclusion Criteria**

1. Patient undergoing urinary stoma construction.
2. Patients undergoing stoma construction as indication for gynaecological disorders.
3. Patients in whom follow up is not feasible.

**IV. Results**

**Table 1: Age Distribution**

Age Group (YRS)	Frequency	Percent
15-25	2	4
26-35	8	16
36-45	9	18
46-55	8	16
56-65	16	32
>65	7	14
TOTAL	50	100

**Table 2: Sex Distribution:**

Sex	Frequency	Percent
Female	14	28
Male	36	72
Total	50	100

**Table 3: Elective Vs Emergency:**

Elective	Emergency
23	27
46%	54%

**Table 4: Indication for Surgery**

Indication	Number Of Stomas	Percentage
Carcinoma	22	48%
Intestinal Obstruction	16	22%
Abdominal Trauma	4	8%
Miscellaneous	8	22%

**Table 5: Types of Stoma Constructed**

Procedures	Numbers	Percentage
Colostomy	41	82%
End Colostomy	22	44%
Loop Colostomy	19	38%
Transverse	19	38%
Sigmoid	0	0%
Ileostomy	9	18%
End Ileostomy	1	2%
Loop Ileostomy	8	16%
Total	50	100%

**Table 6: Complication of Stoma**

Complication	No.Of.Cases
Hernia	1
Prolapse	5
Retraction	4
Local Sepsis	11
Necrosis	1
Stenosis	0
Intestinal Obstruction	0
Peristomal Abscess	0

**Table 7: Procedure And Complications**

Type Of Stoma	No.Of.Complications
End Colostomy	9
Loop Colostomy	5
End Ileostomy	1
Loop Ileostomy	7

**Table 8: Specific Complication In Each Stoma Type**

	End Colostomy (N=22)	Loop Colostomy (N=19)	END ILEOSTOMY (N=2)	Loop Ileostomy (N=8)
Hernia	1	0	0	0
Prolapse	1	2	1	0
Retraction	1	2	0	1
Necrosis	0	0	0	1
Local Sepsis	6	1	0	4
Stenosis	0	0	0	0
Bowel Obstruction	0	0	0	0
Peristomal Abscess	0	0	0	0

**Table 9: Complication In Emergency And Elective Procedure**

No.Of.Cases	Complications	Percentage
Elective(N=23)	10	21.70%
Emergency(N=27)	13	48.18%

Alternatives to stoma formation are being increasingly sought, partly because of dissatisfaction with undesirably high complication rates<sup>(1)</sup>. Complications of stoma creation include physiological problems, functional problems and challenges with psychological adjustment or adaptation. Physiologic problems such as parastomal hernias and skin irritation are most often described in the medical and nursing literature.<sup>(2)</sup>

A total of 50 patients were included in the study including both emergency and elective stoma formation cases.

- Maximum number of patients were in the group of 55-65 years. (n= 32 out of 50).
- Males (n=36 out of 50) are more common affected than females(n= 14).
- Stomas constructed are more commonly emergency (n=27) than elective(n=23).
- The most common stoma created was colostomy (n= 41 of total 50).
- Total of 41 patients underwent colostomy formation, of which 22 were end colostomy and 19 were transverse loop colostomy.
- 9 patients underwent ileostomy formation, of which 8 were loop ileostomy and 1 were temporary end ileostomy.

The most common indication for stoma formation was carcinoma (n=37) followed by abdominal trauma (n=4), ileal perforation(n=2), rectal perforation(n=1), sigmoid volvulus with gangrene(n=1), faecal fistula(n=1), pelvic abscess (n=1), intra abdominal abscess(n=1), ileal gangrene(n=1), intestinal obstruction(n=1).

Carcinoma include Ca.Rectum without obstruction (elective) = 15, rectal growth with obstruction = 6, Ca.anal canal = 3, Ca. anorectum= 2, Melanoma anal canal= 1, Rectosigmoid growth with obstruction = 3, Rectosigmoid growth without obstruction= 1, Ca. Sigmoid colon with obstruction=2, Sigmoid colon growth without obstruction= 1, Splenic growth flexure=1.

Transverse loop colostomy also done for patients with sigmoid colon trauma=1, sigmoid volvulus with gangrene =1.

#### Loop Ileostomy done for patients with

Ileal perforation (stab injury) = 2, TB abdomen-multiple strictures of ileum- anastomosis of ileum with proximal loop ileostomy(n=1), intra abdominal abscess with interloop adhesions with multiple serosal tear (n=1), pelvic abscess with ileal resection anastomosis (n=1), Blunt injury abdomen- ileal perforation(n=1), S with adhesive intestinal obstruction in a patient undergone appendicetomy present with multiple serosal tears, serosal closure done > leak > ileostomy done (n=1), ileal gangrene (n=1), faecal fistula with burst abdomen(n=1)

Transverse loop colostomy also done for patients with sigmoid colon trauma =1 (TLC), sigmoid volvulus with gangrene=1 (TLC).

### **Loop Colostomy done for patients with**

Ileal perforation (stab injury) =2, TB abdomen-multiple stricture of ileum- resection anastomosis of ileum with proximal loop ileostomy(n=1), intra abdominal abscess with interloop adhesions with multiple serosal tear (n=1), pelvic abscess with ileal resection anastomosis (n=1), blunt injury abdomen- ileal perforation (n=1), S with adhesive intestinal obstruction in a patient undergone appendicetomy present with multiple serosal tears, serosal closure done >leak > ileostomy done(n=1), ileal gangrene (n=1), feacl fistula with burst abdomen(n=1).

Temporary End Ileostomy done for patients for patients with blunt injury abdomen presents with descending colon gangrene with ileal mesenteric injury- descending colon resection with colonic anastomosis and ileal resection with end ileostomy (tempoary).

Complications were seen in 18 of the patients undergoing stoma formation. Parastomal hernia was seen in 1 patient, prolapse was seen in 5 patients, retraction was seen in 4 patients, necrosis was seen in 1 patient, local sepsis was seen in 11 patients, intestinal obstruction was NIL, peristomal abscess was NIL, Stenosis was NIL.

Complications were more in patients who done emergency cases (13 out of 27) than elective (5 out of 27). Complications were seen in end colostomies than other stoma types.

Skin excoriation and dermatitis is more frequent complication. Local sepsis complication were seen in 11 patients in form of chemical dermatitis and folliculitis occur in patients undergone end colostomy and loop ileostomy. In all of them the major cause was a lack of proper seal around the stoma and stoma bag. All of them were treated by applying a colostomy paste , which formed a protective barrier over the skin. Use of a skin sealent with a copolymer or plasticizing agent without alcohol provides a thin protective film on the skin surface, helps prevent skin stripping of the epidermis during adhesive removal and as a moisture barrier.

Patients with symptomatic parastomal hernias underwent local repair without mesh repair. Stomal prolapse was found with equal incidence in colostomy and ileostomy. In general loop colostomy tend to prolapse more than end colostomy and proximal more than distal.

Necrosis was seen in 1 patient with loop ileostomy formed, and found in immediate postoperative period. It requires laparotomy and revision of stoma.

Loop colostomy has less complication than loop ileostomy. High morbidity was seen significantly in patients whom emergency stomal surgery was done.<sup>(3)</sup>

Although stomal complication is a novel risk for mortality , it is acknowledged that other established prognostic indicators hold stronger influence. As such age, urgency of surgery and diagnosis are found to influence morbidity and mortality rates.<sup>(4)</sup>

The interval between stoma construction and closure usually has a substantial impact on socio economic status. Furthermore quality of life need to be addressed as there seems to be a close relationship between stoma care problems and degree of social restriction. Careful surgical techniques required, but also stoma type has to be carefully chosen in order to have a healthy stoma.<sup>(5)</sup>

Patient adaptation can be achieved with the help of surgeon and endostaomalthapist. Counselling with psychologist has a great impact in the quality of life in patients with ostomy. Severe stress can occur due to skin irritation, pouch leak, offensive odour, decrease in pleasurable activities, depression and anxiety. Poor quality of life was due to inadequate management and counselling services. Standard quality of life can be improved by proper patient education and management by stoma care nurses.<sup>(6)</sup>

### **References**

- [1]. Dinnick T. The origins and evolution of colostomy. *Br J Surg*; 1934 22: 142-153.
- [2]. Paul FT. A method of performing inguinal colostomy, with cases. *Br Med J*;1891 2:118.
- [3]. Lund FB. The valve of enterostomy in selected cases of peritonitis. *JAMA*;1903 41:74-80.
- [4]. Hulten L, Kewenter j, Persson E, Ahren c. 1970 Vitamin B12 absorption In ileostomy patients after opeperation for ulcerative colitis *Scand J Gastroenterol*;5:113-116.
- [5]. Kramer P. The effect of varying sodium loads on ileal excreta of human ileostomized subjects. *J clin Invest* 1966; 45; 1710-18.
- [6]. Hill GL. *Ileostomy: Surgery, Physiology and Management*. New York: Grune and Stratton, 1976:65.