

INTESTINAL STOMA EXPERIENCE OF 100 CASES AT TERTIARY CARE HOSPITAL

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ABSTRACT

Introduction :An intestinal stoma is an opening of the intestine on anterior abdominal wall made surgically. Stomas are used to divert the fecal stream away from distal bowel in order to allow a distal anastomosis to heal as well as to relieve obstruction in emergency situation.

Aims & Objectives : 1) to identify indications for commonly performed stomas
2) to study complications associated with stomas.

Methods: This is a retrospective study was carried out in a surgical unit of A tertiary teaching Hospital, Ahmedabad from January 2016 to December 2018. Data was collected retrospectively from medical records and meticulous history taking including age, gender, indication, type of stoma, type of surgery, careful clinical examination, appropriate operative findings and follow up of the cases were noted. The results were analyzed and compared with other studies.

Results: A total of 100 patients were evaluated age ranged between 12- 85 years (50.5 ± 29.01 years) Male to female ratio was 7:3. Of the 100 patients 88 were admitted in emergency while 12 in out-patient department. The most common type of stoma made was loop ileostomy (62%) followed by sigmoid colostomy (13%) and transverse loop colostomy (9%). Main indication for a stoma formation was enteric perforation (35%) followed by Koch's

abdomen (16%). Of the various complications encountered with intestinal stoma, peristomal skin irritation (45%) was the most consistent complication followed by laparotomy wound infection (22%).

Conclusions: In Spite of vast exposure of general surgeons towards stoma formation the complications are inevitable. Early detection of complication and its timely management is the keystone.

Key words: Intestinal stoma, Indications, Complication

INTRODUCTION

The word “Stoma” comes from the Greek word meaning mouth or opening.¹ An intestinal stoma is an opening of the intestine on anterior abdominal wall made surgically.² Stomas are used to divert the fecal stream away from distal bowel in order to allow a distal anastomosis to heal as well as to relieve obstruction in emergency situation. It may be temporary or permanent; depending on their role.³ Though a life saving procedure, it may result in significant number of complications. Complications are divided into early complications (up to 30 days after operation) and late complications (more than 30 days after operation). Litre of Paris was the first to make a ventral colostomy in 1710 for a baby with imperforate anus.⁴ An ileostomy was first advocated in ulcerative colitis in 1912 but was not widely used until Brooke demonstrated his everted ileostomy in 1952.⁵ Various Indications for which intestinal stomas are formed: ulcerative colitis, bowel obstruction, cancer of colon & rectum, crohn’s disease, congenital bowel defects, uncontrolled bleeding from large intestine, injury to the intestinal tract, inflammatory bowel disease, ischemic bowel disease, carcinoma urinary bladder and spinal cord injury.⁶

METHODS

This is a retrospective study was carried out in surgical unit of a tertiary teaching hospital, Ahmedabad from January, 2017 to December, 2018. . Data were collected retrospectively from medical records including their admission wheather emergency or OPD basis, meticulous history taking including age, gender, indication, type of stoma, type of surgery, careful clinical examination, appropriate operative findings and follow up of the cases. The results were collected, analyzed and compared with other studies. All patients who underwent elective and emergency intestinal stoma construction for any underlying cause were included in the study. All patients less than 12 years, patients with urinary diversion procedures which involve creation of intestinal stomas and feeding jejunostomy/Gastrostomy were excluded from the study.

RESULTS

Out of 100 patients, 70 were male and 30 were females. The mean age was 50.5 ± 29.01 years with a range of 12 to 85 years. 88 stoma were made in emergency and only 12 in elective Surgeries.

TABLE I : Common indication for performing the stoma

INDICATIONS	NUMBERS OR PERCENTAGES
Unknown	10
Enteric Perforation	35
Koch's Abdomen	16
Carcinoma Rectum	9
Stab Injury Abdomen	8
Small Intestinal Obstruction	6
Fecal Fistula Following RA Leak	4
Sigmoid Volvulus	4
Carcinoma Colon	2
Blunt Trauma Abdomen	2

Rectal Prolapse	2
Post Ileal Tear	1
Colon Obstruction	1
Total	100

In our study most common indication for stoma was Enteric Perforation(35%) followed by Koch's Abdomen(16%)

TABLE II : Types of stomas performed.

TYPES OF STOMA	NUMBERS OR PERCENTAGES
Loop ileostomy	62
Double Barrel ileostomy	4
Ileostomy with mucous fistula	4
End ileostomy	5
Sigmoid Colostomy	13
Transverse loop colostomy	9
Descending Colostomy	3
Total	100

There were 75 cases of ileostomy out of these, 62 were loop ileostomy, 4 double barrel ileostomy, 5 end ileostomy, 4 were ileostomy with mucous fistula. 25 colostomy were done of which 13 were sigmoid colostomy, 9 were transverse colostomy and 3 was descending colostomy.

TABLE III : Distribution complications associated with stomas

COMPLICATION	NUMBERS	PERCENTAGE
Peristomal skin irritation	37	45.12
Stoma retraction	5	6.09
Prolapsed Stoma	5	6.09
Bleeding	0	00
Mucocutaneous separation	3	3.65
Stenosis	1	1.21
Parastomal Hernia	4	4.87
Peristomal infection,abscess,fistula formation	6	7.31
Laparotomy Wound Infection	18	21.95
Stoma diarrhoea	3	3.65
Total	82	

In our study, 18 cases remained free of complications while 82 cases developed some sort of complication.

DISCUSSION

Fecal diversion remains an effective option to treat a variety of gastrointestinal and abdominal conditions.⁷ Ileostomy and colostomy are commonly made intestinal stomas in surgery. The earliest stomas were actually unintentional ones, enterocutaneous fistulas resulting from penetrating abdominal injuries or complications of intestinal diseases such as incarcerated hernias.⁸ A number of patients undergo surgeries for fecal diversion. But despite a great number of such surgeries done, complications are almost inevitable.

Patients undergoing stoma formation are at risk of developing a wide range of complications following surgery.⁹ There are many factors suggested to predispose to stoma complications like high body mass index, inflammatory bowel diseases, use of steroids and

immunosuppressant drugs, diabetes mellitus, old age, emergency surgery, surgical technique and surgeons' experience.¹⁰ Stomas in our study were formed in emergency are 88% while 12% were made electively.

The most common stoma made in our study was loop ileostomy (62%) followed by sigmoid colostomy (13%) and transverse loop colostomy (9%) with most of them being formed in males 76%. Similarly in a study by Shah JN et al¹¹ loop ileostomy was the most common stoma formed (70%) followed by loop colostomy (17%). Another study by Ghazi MA et al¹² Ileostomy accounted for 70% stomas followed by colostomy in 30%.

Robertson et al¹³ reported stoma related complications rate between 10 and 70%, which may be because of varying lengths of follow up. Many surgeons consider loop ileostomy as preferred method for temporary fecal diversion. Loop ileostomy is considered generally easier to manage and is not associated with a greater rate of complications (in its construction and closure). Wexner SD et al¹⁴ reported a complication rate of 41 % associated with loop ileostomy construction, with 6% requiring surgical intervention.

The most common indication of stoma formation in our study was enteric perforation in 35 cases (35%) followed by Koch's abdomen in 16 cases (16%) and carcinoma rectum in 9 cases (9%). This data is similar to that in the study by Akram Rajput et al¹⁵ in which enteric perforation was the most common indication of stoma formation (60%). Similarly a study in Adnan Aziz et al¹⁶ demonstrated typhoid perforation (66%) and tuberculosis as the most common cause of stoma formation.

In contrast, a study of Safirullah et al¹⁷ showed colorectal carcinoma (22%) as the most common cause of stoma formation followed by trauma (20%) and typhoid perforation (20%). Typhoid ileal perforation usually occurs in 2nd or 3rd week of illness. Simple as compared to lengthy surgery improves survival. In the present study, loop ileostomy for multiple typhoid perforations and simple closure with proximal ileostomy were performed. The high incidence of unrecognized abdominal tuberculosis and typhoid leading to acute abdomen in our subcontinent is alarming and requires further research.

In our study, 18% cases remained free of complications while 82% cases developed some sort of complication. This percentage is near to the study by B Mahjoubi¹⁸ who reported complications in 70% patients and much higher than western studies by Pearl¹⁹, Duschesne²⁰ and Harris²¹ who reported complications in 26%, 25% and 25% cases respectively. The early reported incidence of peristomal skin irritation ranges from 3-42%. The degree of irritation ranges from mild peristomal dermatitis to full thickness skin necrosis to ulceration.

The most common complication reported in our study was peristomal skin irritation and erythema (45%) followed by laparotomy wound infection (22%) and peristomal skin infection, abscess formation and fistula formation (7.3%). A study by Ratliff et al²² has shown peristomal irritation in 53% cases while Pearl et al¹⁹ showed peristomal skin erythema as the most common complication in 42%. Ambreen Muneer²³ reported skin excoriation in 18% cases. Safirullah et al¹⁷ reported skin erythema in 12% followed by prolapsed (6%) and retraction (4%). Apart from these peristomal complications, the systemic complications like electrolyte disturbances, gaping of the main wound and faecal fistula have been reported in much higher incidence in ileostomy in our study. Katia et al²⁴ reported higher overall complication rate with ileostomy.

In our study there was a mortality rate of 11% where patients died due to primary disease; which is comparable to the mortality rate of 18% reported by Joseph C et al²⁵

CONCLUSION

Surgeries resulting in stomal complications show a higher frequency of complication in loop ileostomy and in male gender. Enteric fever was the most common cause of stoma formation. Peristomal skin irritation is the most common of all complication due to nature of the spilled content. This study makes important contributions to the evidence related to ostomy complications and risk factors. Studying the incidence and severity of ostomy complications and the factors that lead to the development of such complications contributes new scientific knowledge and provides a foundation upon which to build future research.

This new information may potentially lead to the development of interventions that will improve care and quality of life for individuals living with an ostomy.

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