



## STUDY OF INTESTINAL STOMA IN EMERGENCY CASES- ITS INDICATIONS AND COMPLICATIONS IN ADULTS

### Surgery

|                              |                                                 |
|------------------------------|-------------------------------------------------|
| <b>Sneha Karhade</b>         | Resident, GMC Aurangabad.                       |
| <b>Pravinkumar Wasadikar</b> | Associate Professor, GMC Aurangabad.            |
| <b>Suresh Harbade</b>        | Associate Professor, GMC Aurangabad.            |
| <b>Khan Noman Muntassir</b>  | Assistant Professor, GMC Aurangabad             |
| <b>Kartik Kapoor*</b>        | Resident, GMC Aurangabad. *Corresponding Author |

### ABSTRACT

Stoma is a surgically created opening in the anterior abdominal wall. The purpose of stoma is to divert the feces away from the distal bowel loops to relieve obstruction or to protect anastomosis. In this study, indications for stoma formation and its complications were studied. A prospective study on 50 subjects was done including all patients of both sexes above 18 years of age undergoing intestinal stoma formation in emergency cases. Maximum patients were in the age group of 40-50 years and ileostomy was the most common type of stoma constructed. Out of 50 patients eight patients developed complications. The most common early complication observed in stoma construction was skin excoriation found in two people with ileostomy, followed by retraction, mucocutaneous fistula, edema, necrosis and parastomal hernia.

### KEYWORDS

Ileostomy, Colostomy, Stoma Complications.

#### INTRODUCTION

Stoma is a surgically created opening in the anterior abdominal wall. The purpose of stoma is to divert the feces away from the distal bowel loops to relieve obstruction or to protect anastomosis.<sup>1</sup> Stomas are classified as temporary stoma and permanent stoma based on the need.<sup>2</sup> After construction of stoma, it produces multiple complications.<sup>3</sup> Most of the stoma complications are minor, can be managed with proper care, but major complications require intervention by means of surgery which produces high morbidity and mortality.<sup>4</sup> In the present study, an attempt was made to identify common indications and complications associated with intestinal stoma in a tertiary care set-up. This insight will help us decrease the problems associated with this commonly performed general surgical procedure.

#### AIMS AND OBJECTIVES

1. To study indications of intestinal stoma in emergency.
2. To study early and late complications.
3. To study types of stoma

#### MATERIALS AND METHODS:

##### Place of study:

All patients admitted under Department of General Surgery, Government Medical College and Hospital.

##### Study design:

Prospective study. Study duration: June 2019 to September 2021

##### Sample size: 50 cases

**Study tool:** Data was collected from all patients who were admitted in Government Medical College and those who come under the inclusion criteria.

**Inclusion criteria:** All patients of both sexes above 18 years of age undergoing intestinal stoma formation in emergency cases.

##### Exclusion criteria:

1. All patients below 18 years of age.
2. All patients undergoing urinary stoma construction.
3. Elective cases undergoing intestinal stoma construction.
4. Metabolic complications were excluded from the study.
5. Patient not willing for study.
6. Gastrostomy and jejunostomy cases were excluded from the study.

#### OBSERVATIONS AND RESULTS:

With due consideration of all inclusion and exclusion criteria, a total 50

patients were selected for the present study. Among 50 patients, 40-50 years is the most common age group (28%) who underwent stoma construction followed by 18 to 28 years (30%).

**Table 1: Age Group And Sex Wise Distribution In The Study Population**

| Age group   | Male | Female | Percentage |
|-------------|------|--------|------------|
| 18-28 years | 8    | 6      | 28%        |
| 29-39 years | 2    | 5      | 14%        |
| 40-50 years | 13   | 2      | 30%        |
| 51-61 years | 3    | 1      | 8%         |
| 62-72 years | 5    | 2      | 14%        |
| >72 years   | -    | 3      | 6%         |

Out of 50 patients undergoing stoma construction, the most common indication for stoma construction was intestinal perforation (ileal perforation) (46%) followed by intestinal obstruction (18%) due to adhesions, intussusception, diverticulum and volvulus.

**Table 2: Type of stoma created**

| Type of Stoma        | Number Male | Female | Total | Percentage |
|----------------------|-------------|--------|-------|------------|
| End Colostomy        | 1           | 2      | 3     | 6%         |
| Loop colostomy       | 1           | -      | 1     | 2%         |
| Transverse colostomy | 4           | 2      | 6     | 12%        |
| Sigmoid colostomy    | 3           | -      | 3     | 6%         |
| End ileostomy        | -           | 2      | 2     | 4%         |
| Loop ileostomy       | 5           | 4      | 9     | 18%        |
| Double barrel stoma  | 16          | 10     | 26    | 52%        |

Out of 50 patients, the most common type of stoma constructed was double barrel stoma (52%), followed by loop ileostomy (18%). The next most common stoma constructed was colostomy. In colostomy most common was transverse colostomy (12%), followed by end sigmoid colostomy (6%).

**Table 3: Early complications of stoma.**

| Complications            | Male | Female | Ileostomy | colostomy | % |
|--------------------------|------|--------|-----------|-----------|---|
| Necrosis                 | 1    | -      | 1         | -         | 2 |
| Mucocutaneous Separation | 1    | -      | 1         | -         | 2 |
| Local skin problems      | 2    | -      | 2         | -         | 4 |
| Retraction               | 1    | -      | -         | 1         | 2 |
| edema                    | 1    | -      | -         | 1         | 2 |

Out of 50 patients, eight patients developed complications. The most

common early complication (up to 30 days after operation) after stoma construction was skin excoriation (4%), followed by necrosis, mucocutaneous separation, local skin problems, edema, and retraction (2% each).

| Complications      | Male | Female | ileostomy | colostomy | % |
|--------------------|------|--------|-----------|-----------|---|
| Stenosis           | -    | -      | -         | -         | - |
| Laceration         | -    | -      | -         | -         | - |
| Prolapse           | 1    | -      | -         | 1         | 2 |
| Parastomal hernia  | -    | 1      | 1         | -         | 2 |
| Parastomal abscess | -    | -      | -         | -         | - |
| fistula            | -    | -      | -         | -         | - |



**Figure 1- Prolapse of transverse loop colostomy in an operated case of large bowel obstruction which was managed conservatively.**



**Figure 2- Parastomal hernia (in an operated case of colorectal carcinoma managed by extended left hemicolectomy with end ileostomy) managed by open intraperitoneal mesh placement.**

Two patients developed late complications (more than 30 days after operation) like stoma prolapse (2%) and parastomal hernia (2%).

#### DISCUSSION:

The present study included 50 patients who underwent stoma construction. The maximum number of patients were in the age group of 40 to 50 years (30%) and 18 -28 years (28%). Present study is comparable to the study by Shyam Bhutra et al<sup>5</sup> (2019), found two peaks in age distribution, first in age group 31 to 45 years and second in 46 to 60 years. Rovena Bode et al<sup>6</sup> (2019) observed 64 year was the mean age in which intestinal stoma was formed.

Out of 50 patients, 62% were males and 38% were females. Similar results were reported by Ahmed Z et al<sup>7</sup> (2013), Sayed Asad Ali et al<sup>8</sup> (2010) and Akram Rajput et al<sup>9</sup>

Out of 50 patients undergoing stoma construction, the most common indication for stoma construction was intestinal perforation 46% (most commonly ileal perforation) followed by intestinal obstruction 18% due to adhesions, volvulus, intussusception and diverticulum. Similar findings were also reported by Rajput A et al<sup>10</sup> (2007), where the main indication for stoma construction was ileal perforation secondary to enteric fever.

Out of 50 patients eight patients developed complications. The most common early complication observed in stoma construction was skin excoriation found in two people with ileostomy, followed by retraction, mucocutaneous fistula, edema, necrosis and parastomal hernia.

Complication occurs in both ileostomy and colostomy. Colostomy associated with higher chances of parastomal hernia and other stomal complication, compared to peristomal skin related complications are high in ileostomy. Peristomal skin related complications less in

colostomy. Next to skin excoriation stomal retraction were most common. Parastomal hernia most common in transverse colostomy compared to ileostomy. Most of the complications were managed conservatively like skin excoriation by wound care and by maintaining a proper seal between the pouch appliance and skin. But few complications need surgical intervention like stomal retraction and intestinal obstruction. One patient who had colostomy retraction was managed by stoma revision. Complications of present study are consistent with the following studies.

| Name                                                                         | Author                              | Results                                             |
|------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------|
| A clinical study of intestinal stomas: its indications and Complications     | Ahmed Z et al <sup>7</sup> (2013)   | Skin excoriations-36%<br>Wound infections-13 %      |
| Various Complications in Ileostomy Construction                              | Muneer A et al <sup>11</sup> (2007) | Skin excoriation-17.64%<br>Wound infections-5.80%   |
| Temporary Loop Ileostomy: Prospective Study of Indications and Complications | Rajput A et al <sup>9</sup> (2007)  | Skin excoriations-21.4% Poor sitting of stoma- 7.1% |

#### CONCLUSION:

Skin excoriation following loop ileostomy is the most common complication which is managed conservatively. Other complications like parastomal hernia, necrosis and retraction following ileostomy are managed by surgery while edema and stoma prolapse which develop after transverse loop colostomy are managed conservatively.

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