

AN EXPERIENCE WITH ILEOSTOMY

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ABSTRACT

Objective: To determine the indications of ileostomy and frequency of its common complications in our setup.

Material and Methods: This is a descriptive cross sectional study and was conducted at Surgical Department of Hayatabad Medical Complex, Peshawar, from March 2013 to March 2014. In this study total of 207 patients were selected and admitted either through emergency or as an elective case from outpatient department.

Results: The mean age of the patients was 42 years \pm 14.92 SD. Eighty-one percent were male while 19% patients were female. In this study most of the patients 42% had enteric perforation, 22% had fire arm injury, 17% had abdomen tuberculous, 9% had covering ileostomy, 4% had peritonitis, 1% had blunt trauma, 1% had bomb blast injury, 1% had iatrogenic perforation, 1% had gangrenous ileum, 1% had anastomosis breakdown and 1% had mesenteric ischaemia. Complications of ileostomy were analyzed as among 207 cases, 60% had complications in which 25% had skin excoriation, 10% had poor sitting while 6% had high output fistula.

Conclusion: The ileostomy is definitely associated with several early post operative complications and some of them can be avoided by proper pre operative assessment and preparation of the patients in the form of attaining good general health and good surgical hands to perform ileostomy.

Key Words: Ileostomy, stoma, typhoid, complications, indications.

INTRODUCTION

Ileostomy can be defined as the surgical creation of an opening in which an ileum is cut and pulled out through a skin hole usually in the right iliac fossa to the surface of the abdomen. They are often necessary to prevent potentially devastating complications and save life. The creation of ileostomy is an integral component of the surgical management of several disease processes involving the gastrointestinal tract. Range of its complication include skin excoriation, leakage, bleeding around a stoma, stoma retractions, poor sitting, stoma prolapsed, stenosis, ischemia, dehydration, para-stomal hernia formation and stoma necrosis. Diverting ileostomies are frequently performed to protect low anastomosis and its closure has shown, under some circumstances, high associated mortality and morbidity rates.¹

Commonly practiced ileostomy creation is for typhoid perforation, trauma to gut, non-specific inflammation of the bowel and tuberculosis. The creation of ileostomy reduces morbidity and mortality dramatically.² Typhoid perforation presenting late and with septic shock due to peritonitis can be satisfactorily treated with exteriorization of perforation as an ileostomy with minimal complications.³ As it is a morbid condition,

it has to be closed. Ileostomy is closed usually three months later, especially if it is a diverting stoma to protect ileo-anal anastomosis.⁴ End ileostomy which is also called brooke's ileostomy was originally described by BRYAN BROOKE, who was professor of surgery in St George's hospital, London, England in 1915. He used spout of about 4 cm projection from the skin surface. A disposable appliance is placed over this ileostomy so that it is snug fit at skin level.⁵

Turnbull and colleagues first described loop ileostomy in 1971, and it has since become an increasingly popular procedure in colorectal surgery. Loop ileostomy has been used for fecal diversion to treat a wide range of conditions.⁶

MATERIAL AND METHODS

This was a descriptive cross sectional study and was conducted at Surgical Department of Hayatabad Medical Complex, Peshawar, from March 2013 to March 2014. In this study total of 207 patients were selected and admitted either through emergency or as an elective case from outpatient department. This study included both genders having age 18 years and above with bowel perforations due to typhoid, tuberculosis and trauma; diagnosed on basis of history, clinical examination and investigation and also included those patients who undergo de- functioning of distal bowel in case of rectal/colonic anastomosis and ileoanal pouch procedures. Known diabetic patients or patients diagnosed on basis of two fasting blood glucose level >126 , patients on long term steroids; based on history were excluded from this study.

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Special data collection performa was designed to record all relevant data. This included demographic information like name, age, gender. Informed written consents were taken from patients regarding the procedure and included in the study as part of ethical practice. A detailed history and physical examinations were carried out and the routine investigations were done in all cases. To standardized the pre operative status of all the patients were kept nil orally for at least six hours pre operatively and put on IV fluid. Cephalosporin and metronidazole was given to all patients on induction. All patients undergoing ileostomy formation was performed. Post operatively the antibiotics, intravenous fluid and analgesics were continuing along with other medicines according to the type of disease for which ileostomy were performed. Post operatively all the patients were followed and on the first post operative day the patients were evaluated for poor sitting and once bowel sounds are heard the patients were followed for next 24 hours for high output. Furthermore the patients were evaluated at 2 weeks and one month for skin excoriation. All the data was analyzed in SPSS 10.0. Mean and standard deviation were computed for continuous variables like age. Frequency and percentage were calculated for categorical variables like gender, skin excoriation, poor sitting, high output fistula. ileostomy complications were stratified among the age, sex and indications for ileostomy to see the effect modifiers.

RESULTS

Age distribution among 207 patients was analyzed as 23(11%) were found in age range 18-20 years, followed by 35(17%) patients in age range 21-30 years, 50(24%) patients in age ranged 31-40 years, 52(25%) patients in age range 41-50 years and 47(23%) patients in age range 51-60 years. Mean age was 42 years and standard deviation was calculated as ± 14.92 .

Gender distribution among 207 patients was analyzed as most of the patients 168(81%) were male while 39(19%) patients were female. Indication among 207 patients was analyzed as most of the patients 87(42%) had enteric perforation, 46(22%) had fire arm injury, 35(17%) had abdominal tuberculous, 19(9%) had covering ilseostomy, 8(4%) had peritonitis, 2(1%) had blunt trauma, 2(1%) had bomb blast Injury, 2(1%) had iatrogenic perforation, 2(1%) had gangrenous illeum, 2(1%) had anastomosis breakdown and 2(1%) had mesenteric Ischaemia. Complications of ileostomy are shown in Table 1.

Association of ileostomy complications in age group were analyzed in 31 cases of skin, 10 patients were in age range 41-50 years, 9 patients were in age range 51-60 years, 8 patients were in age range 31-40 years, 3 patients were in age range 21-30 years and only one patient was in age range 18-20 years. While in 12 cases of poor sitting, 5 patients were in age range 51-60 years, 4 patients were in age range 41-50 years, 2 patients were in age range 31-40 years, one patient was in age range 21-30 years. Similarly in 7 cases of

Table 1: Complications of Ileostomy

Complications	Frequency & Percentage
Skin Excoriation	31 (25%)
Poor Sitting	12 (10%)
High out put Fistula	7(6%)
Total	50 (43%)

Table 2: Complications of Ileostomy versus age distribution

Compli-cations	18-20 years	21-30 years	31-40 years	41-50 years	51-60 years	Total
Skin Excoriation	1	3	8	10	9	31
Poor Sit-ting	0	1	2	4	5	12
High output Fistula	0	1	1	2	3	7
Total	1	5	11	16	17	50

high output Fistula, 3 patients were in age range 51-60 years, 2 patients were in age range 41-50 years, 1 patient was in age range 31-40 years and only one patient was in age range 21-30 years. Association of ileostomy complication in gender distribution was analyzed and are shown in Table 2.

DISCUSSION

There are variety of conditions, where stoma in the form of ileostomy is the better option. These conditions where ileostomy is indicated are in close comparison found in our study and other local/ national studies. Our study shows that incidence of ileostomy was found more in old age as compare to early ages as in our results most of the patients 72% were in age range 31-60 years and 28% patients were in age range 18-30 years. Similar results were shown in study done by Aziz A et al in which most of the patients 70% were in age range 31-60 years and 30% patients were in age range 18-30 years.⁷

Our study shows that incidence of ileostomy was found more in male patients as compare to female patients as in our results 81% patients were male and 19% patients were female. Similar results were analyzed by Aziz A et al in which 80% patients were male and 20% patients were female.⁷ In western countries, where typhoid and tuberculosis are less prevalent, stoma is usually indicated in colorectal surgery for malignant conditions. In developed nations conditions commonly necessitating ileostomy are familial adenomatous polyposis, ulcerative colitis hurshprung disease and diverticular diseases⁸. While the commonest indication in our study is enteric perforation, followed by FAI and thirdly tuberculosis.

Typhoid fever, an infectious disease caused by a bacterium salmonella typhi, spreads by the contamination of drinking water and edibles in under development countries like ours.⁹ Patients having typhoid (enteric) perforation were usually from low socioeconomic status and presented late in our study. These patients were usually with gross peritoneal contamination, hemo dynamically not well stable and in poor and hygiene and health. Some received in septic shock. All these factors advocated the stoma rather than a failed primary repair.

In our study we had 42% cases of enteric perforation in whom we made ileostomy. This number is very much in accordance with the 33% case of enteric perforation in whom ileostomy was created.^{10,11} Similarly the study of Akram Rajput¹², showed that typhoid (enteric) perforation was the most common indication of temporary loop ileostomy. In our study the indication was 42% and in his study upto 2/3rd of all cases (66%). The results are similar because enteric perforation is common in our country like other developing countries so the results are mainly similar or closed to other national studies.

In our study we got 22% FAI, cases in whom stoma was created which is exactly the same as in Safirullah's one¹³, similarly in the study of Tajammual Hussain traumatic perforation was the 2nd commonest indication of ileostomy.¹¹ Fire arm injuries and other penetrating wounds are more common in KPK usually said to be because of aggressive natures of Pathans so our study is very similar to other studies conducted in KPK.

The figure is much more in contrast with the study conducted in university of Delaniya, Srilanka, by Rathnayake and colleges where temporary loop ileostomy was created in 71% of patients with colorectal malignancies. As discussed earlier, typhoid and tuberculosis plus trauma are mainly encountered in under developed countries and so the ileostomy is indicated in these conditions mainly while in the industrialized world with good socioeconomic status, good sanitations and clean drinking water, the ileostomy is usually indicated in distal anastomosis as a diverting stoma.¹⁴

In our study the incidence of complications were found in 60% patients in which skin excoriation was the very common complication found in 25% patients on the other hand poor sitting was the 2nd most common complication found in 10% patients while high output fistula was noted in 6% patients. Similar finding were observed in study done by Aziz A et al⁷ in which skin excoriation was found in 21.4% patients, poor sitting was found in 7% patients and high output fistula was found in 6% patients.

Our study shows that occurrence of skin excoriation, poor sitting and high output Fistula is more in older age as compared to young age as in our results most of the patients with all these complications were found in age range 31-60 years. Similarly the incidence

of skin excoriation, poor sitting and high output Fistula are more common in male patients as compared to female patients as in our results most of the patients with all these complication was male as compare to females. Similar concept had been explained in some other studies as well^{14,15,16}.

CONCLUSION

Most of the complications associated with ileostomy can be reduced by , cautious handling of the gut per operatively in term of releasing the adhesive bands, avoiding compromise to the blood supply ,proper site for ileostomy and good post operative care.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

Iqbal Z: Idea of the study and operating surgeon.

Khan S: Data collection and typing.

Rehman M: Bibliography.

Shareef G: Statistics.

Aziz U: Followup.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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