

Outcome of Ileostomy Reversal With and Without Nasogastric Tube

Ileostomy
Reversal With
and Without NG
Tube

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ABSTRACT

Objective: To Compare the outcome of ileostomy reversal with and without a nasogastric tube (NG) tube.

Study Design: The current comparative cross sectional study

Place and Duration of Study: This study was conducted at the surgical department of Ayub Teaching Hospital Abbottabad from July 2022 to June 2023.

Materials and Methods: A total of 125 patients of both male and female were included through the randomization technique. The patients were randomly divided into two groups, Group 01 consists of patients with nasogastric tubes, and Group 2 consists of patients without nasogastric tubes. All the data was collected by a specialized proforma. Data analysis was done by using SPSS version 24.

Results: The total sample size of the study was 125. There was a total of 79 males (63.20%) and 46 (36.80%) were females. The mean age in group 1 was 24.99 years, while the mean age in group 2 was 25.32 years. The mean hospital stay in group 1 was 5.66 ± 2.56 and the mean stay in group 2 was 4.71 ± 1.72 . 5 (7.6 %) of the patients in the group 1 had developed Abdominal distention, moreover, 3 (5%) patients had developed Abdominal distention in group 2. 42 (64.61%) of the patients in group 1 had passed flatus with a mean time of 48 ± 4.51 hours, while, the patients in group 2 had passed flatus with a mean time of 34 ± 3.33 hours after the reversal of ileostomy.

Conclusion: The study concluded that patients without nasogastric tubes after the ileostomy reversal surgery have fewer mean hospital stays, and fewer chances of developing abdominal distension, in addition, the mean time of flatus passage was also less, than those with nasogastric tube with greater hospital stay and more chances of developing abdominal distension as well as more takes more to pass the flatus.

Key Words: Nasogastric tube, abdominal distention, ileostomy reversal, flatus passage.

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INTRODUCTION

An ileostomy is a surgical procedure in which the ileum a part of the small intestine brings outside of the abdomen and attached to the skin on the right hypochondriac region above the groin area, moreover, mostly the loop and last part of the small intestine.¹ An ileostomy is a type of surgery that allows the patients to happily spend their life from every perspective like their social life with their friends, children, and their family member even if they have a stoma bag attached, they can do their daily life activities like jobs and travel to their destinations, therefore ileostomy is called the life-preserving operation.²

Conditions like malignancy, intestinal polyposis, ulcerative colitis, and Crohn's disease are some of the

major indicative conditions because this type of surgery is performed for a wide range of diseases.³ The restoration of ileostomy is thought to be a simple procedure, however this can cause a range of complications like serious consequences, and even fatality too. the ileostomy will be reversed after the complete remission of the primary disease.⁴ According to reports, the incidence of serious and moderate postoperatively problems after ileostomy reversing operations varies around 22% - 33%.⁵⁻⁷ Post ileostomy turnaround, the likelihood of a small intestine blockage or ileus following surgery can rise up to twelve percent (12%).^{8,9} A comprehensive review of 48 ileostomy restoration trials revealed that there was a total of 7.2 % of the patients had developed obstruction of the intestinal tract and 2.5 % required surgical reopening interventions.¹⁰ Generally, following surgery of ileostomy reversal operation patients were kept NPO (nothing per oral) for four to five days.¹¹ Nasogastric decompression (NGD) was first invented by Levin and Wangenstein in 1921 and 1933 respectively, However, questions were rose in late 1960 regarding the daily applications of a nasogastric tube (NG).¹² According to the conclusions of numerous, the insertion of a nasogastric tube can prolong the stay in the hospital, patients suffering from pain, and complications like respiratory and breathing difficulties, moreover, NG has

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no apparent advantages to the patients.¹³ The study conducted by Qureshi et al concluded that the patients with nasogastric tube placement had fewer hospital days (5.7 ± 1.4) postoperatively as compared to patients with nasogastric tube placement (8.1 ± 4.4). Due to post-up complications, affecting the mobility of the patients after the surgeries, therefore, the placement of a nasogastric tube depends upon the condition of the patients.¹⁴ Therefore, the current study is to compare the effect, like temperature, pulse, post-up hospitals stay, passage of flatus, and abdominal distention on the patients with nasogastric tubes after surgery in comparison to those patients without placement of nasogastric tube.

MATERIALS AND METHODS

The current comparative cross sectional study was conducted at the surgical department of Ayub Teaching Hospital Abbottabad. The study was conducted from July 2022 to June 2023 for the duration of one year. The study was approved by the institutional review board of the hospital before the commencement. A total of 125 patients of both male and female were included through the randomization technique. The patients were randomly divided into two groups, Group 1 consists of patients with nasogastric tubes, and Group 2 consists of patients without nasogastric tubes. The ages of the patients were from 15 -50 years. Patients were first informed properly about the purpose of the study and potential benefits and complications. Informed consent was obtained from each patient before the intervention. Patients of ileostomy were included in the study, according to the definition the duration of ileostomy of from one month to six months duration. The patients with anastomosis due to firearm injuries, chronic diseases like diabetes, cancer, hepatic diseases, renal diseases, and autoimmune diseases patients were excluded from the study. All the patients were kept NPO for three days postoperatively. The patients of both groups were compared in terms of their outcomes from the day of surgery to the day of discharge from the hospital. All data were analyzed by the latest version of SPSS (24).

RESULTS

The present study comparatively assessed the outcomes in patients with ileostomy reversal in patients with a nasogastric tube and without a nasogastric tube. The total sample size of the study was 125. There was a total of 79 males (63.20%) and 46 (36.80) were females. The male-to-female ratio was 1.7: 1. Table 1 shows the ages of the patient's ages divided into 10 years intervals. The mean age in group one was 24.99 years, while the mean age in group 2 was 25.32 years. Table 2 shows the duration of ileostomy in months, in group 1, 1-3 months was 52.30 %, while 55 % was in group 2. Table 3 shows the hospital stay, the mean hospital stay in group 1 was 5.66 ± 2.56 days and the

mean stay in group 2 was 4.71 ± 1.72 days. Table # 06 shows the daily charting of both groups postoperatively. In group 1 the mean pulse was 86 beats per minute, while in group 2 was 78 beats per minute. 5 (7.6 %) of the patients in the group had developed Abdominal distention, moreover, 3 (5%) patients had developed Abdominal distention. 42 (64.61%) of the patients in group 1 had passed flatus with a mean time of 48 ± 4.51 hours, while, the patients in group 2 had passed flatus with a mean time of 34 ± 3.33 hours after the reversal of ileostomy.

Table No. 1: Age wise distribution of patients in both groups

Ages (years)	Group # 1	Group # 2
15-25	15 (23.07%)	13 (21.66%)
26-35	18 (27.69%)	21 (35%)
36-45	19 (29.23%)	17 (28.33 %)
46-55	13 (20%)	09(15%)
Total	65	60
Mean	24.99 ± 7.89	25.32 ± 8.25

Table No. 2: Percentage of both groups of ileostomy duration in months

Groups	Group #01	Group #02
1 to 3 (Months)	34 (52.30%)	33 (55%)
> 3 to 6 (Months)	31 (47.69%)	21(45%)
Mean	1.53 ± 2.32	1.66 ± 1.99

Table No. 3: Mean hospital stay (days) in both groups

Ages (years)	Group # 1	Group # 2
	Mean and SD	Mean and SD
Mean stay	5.66 ± 2.56	4.71 ± 1.72
Parameter	Group # 01	Group # 02
Pulse	86 ± 8.54	78 ± 6.76
Abdominal distention	5 (7.6%)	3 (5%)
Passage of flatus (hours)	48 hours Meantime	34 hours Meantime

Table No. 6: Post-operative daily charting of both groups

Ages (years)	Group # 1	Group # 2
	Mean and SD	Mean and SD
Mean stay	5.66 ± 2.56	4.71 ± 1.72

DISCUSSION

This part consists of the comparison of the results of the current study with the related research studies. The post-operative stay and the daily charting like pulse, passage of flatus, and abdominal distention after the surgery of both groups were compared with previous research studies. The results of the current study show the outcomes in the patients without nasogastric are good, and suffered from fewer complications than those with a nasogastric tube. There was a total of 79 males (63.20%) and 46 (36.80) were females. The male-to-female ratio was 1.7: 1. The patients were divided into

two groups. Group No. 01 consists of patients with nasogastric tube placement, and group # 02 without nasogastric tube placement. In our study, the mean age in group 1 was 24.99 years, while the mean age in group 2 was 25.32 years. The mean hospital stay in patients with a nasogastric tube was 6.79 ± 2.71 days, while in the patients without a nasogastric tube as 4.81 ± 2.15 days, these results are comparable to another conducted by Aziz M et al, which shows the mean hospital stay in patients with a nasogastric tube was 8.53 ± 3.78 days, while in the patients without a nasogastric tube as 5.39 ± 2.51 .¹⁵ Another study conducted by Ansari MS et al calculated comparable results that mean hospital in the nasogastric tube patients as 8.56 ± 3.11 days, while that without nasogastric as 5.23 ± 2.61 days. The current study shows the daily charting of both groups postoperatively. In group # 01 the mean pulse was 86 beats per minute, while in group # 02 was 78 beats per minute. 5 (7.6 %) of the patients in group # 01 had developed Abdominal distention, moreover, 3 (5%) patients in group # 02 had developed Abdominal distention. The patients in group # 01 had passed flatus with a mean time of 48 ± 4.51 hours, in addition, the patients in group # 02 had passed flatus with a mean time of 34 ± 3.33 hours after the reversal of ileostomy, similarly, the other research article results show 42 ± 5.22 hours and 38 ± 3.74 hours. The present study revealed that 5 (7.6 %) of the patients in group # 01 had developed Abdominal distention, moreover, 3 (5%) patients in group # 02 had developed Abdominal distention, which is comparable to the conducted by Mahla V et al.¹⁶ The major limitation of our study is the small sample size. Other studies based on large sample size should be carried out for better outcomes.

CONCLUSION

The study concluded that patients without nasogastric tubes after the ileostomy reversal surgery have fewer mean hospital stays, and fewer chances of developing abdominal distension, in addition, the mean time of flatus passage was also less, than those with nasogastric tubes with greater hospital stay and more chances of developing abdominal distension as well as more takes more to pass the flatus.

Author's Contribution:

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REFERENCES

1. Cima RR, Pemberton JH. Ileostomy, colostomy, and pouches. In: Feldman M, Friedman LS, Sleisenger MH, editors. Sleisenger & Fordtran's Gastrointestinal and Liver Disease. 9th ed. Philadelphia: Saunders Elsevier; 2010.p.113.
2. Subrahamanyam M, Venuqopal M. Perioperative Fasting, A time to relook. *Ind J Anaesth* 2010;54:374-5.
3. Allam NS, Saleem M. Indications and complications of loop ileostomy. *J Surg Pak* 2009;14:128-31.
4. Fry RD, Mahmoud N, Maron DJ, Ross HM, Rombeau J. Colon and rectum. In: Townsend CM, Beauchamp RD, Evers BM, Mattox KL, editors. Sabiston Textbook of Surgery. 19th ed. Philadelphia: Saunders Elsevier; 2012.
5. Luglio G, Pendlimari R, Holubar SD, Cima RR, Nelson H. Loop ileostomy reversal after colon and rectal surgery. *Arch Surg* 2011; 146(10): 1191-6.
6. Parker MC, Wilson MS, Menzies D, Sunderland G, Clark DN, Knight AD, et al. The SCAR-3 study. *Colorectal Dis* 2005; 7(6): 551-8.
7. Chow A, Tinley HS, Paraskeva P, Javraiah S, Zacharakis E, Purkayastha S. The morbidity surrounding reversal of defunctioning ileostomies. *Int J Colorectal Dis* 2009; 24: 711-23.
8. Saha AK, Tapping CR, Foley GT. Morbidity and mortality after closure of loop ileostomy. *Colorectal Dis* 2009; 11(8): 866-71.
9. Kaiser AM, Israelit S, Klaristenfeld D. Morbidity of ostomy takedown. *J Gastrointest Surg* 2008;12(3):437-41.
10. Vermulst N, Vermeulen J, Hazebroek EJ, Coene PP. Primary closure of the skin after stoma closure. *Dig Surg* 2006;23:255-8.
11. Kaspare K, Mueller MH, Glatzel J. Postoperative colonic motility enhances early food intake in patients undergoing colonic surgery. *Surg* 2004;136:1019-27.
12. St Peter SD, Valusek PA, Little DC, Snyder CL, Holcomb GW, Ostlie DJ. Does routine nasogastric tube placement after an operation for perforated appendicitis make a difference? *J Surg Res* 2007; 143(1): 66-9.
13. Nelson R, Tse B, Edwards S. Systematic review of prophylactic nasogastric decompression after abdominal operations. *Br J Surg* 2005;92: 673-80.
14. Jottard K, Hoff C, Maessen JC, Ramshorst BV, van Berlo CLH, Logeman F, et al. Life and death of the nasogastric tube in elective colonic surgery in the Netherlands. *Clin Nutr* 2009; 28: 26-8.
15. Aziz M, Chaudhry TJ, Khan MI, Qureshi KH. Role of nasogastric tube placement in patients admitted for ileostomy reversal. *Proceeding SZPGMI* 2016;30(1):33-9.
16. Mahla V, Khan S, Ahmad R, Jenaw RK. Early feeding after loop ileostomy reversal: A prospective study. *Formosan J Surg* 2016; 49(5):178-82.