

RESULTS OF REVERSING AN ILEOSTOMY WITH AND WITHOUT AN NG TUBE: A CROSS-SECTIONAL STUDY

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Abstract: This study aimed to compare the outcomes of patients who underwent ileostomy reversal surgery with and without a nasogastric (NG) tube. This cross-sectional study was conducted in the surgical department of Mardan Medical Complex in Mardan over one year, from January to August 2023. One hundred patients were recruited randomly, with 75 males (75%) and 25 females (25%). They were divided into two groups: Group 1 received NG tubes, while Group 2 did not. A customized proforma was used to collect information, which was then analyzed using SPSS version 22. The study population comprised 100 females and 75 (65%) males. The mean age of Group 1 was 25.22 years, and that of Group 2 was 26.11 years. The average hospital stay for Group 1 was 05.55 ± 02.45 , while that of Group 2 was 04.62 ± 01.66 . In Group 1, 7 (07.5%) patients experienced abdominal distension, while 5 (5%) patients in Group 2 experienced the same. Additionally, 62.35% of Group 1 patients passed flatus at a mean time of 47 ± 04.48 hours, while those in Group 2 passed flatus at 35 ± 03.31 hours after ileostomy reversal. The study found that patients who did not receive NG tubes had shorter hospital stays, were less likely to experience abdominal distension, and passed flatus earlier than those who did receive NG tubes. Therefore, it is suggested that NG tubes may not be necessary for all patients undergoing ileostomy reversal surgery.

Keywords: Flatus Passage, Ileostomy Reversal, Abdominal Distention, Nasogastric Tube

Introduction

An ileostomy is a surgical technique in which the loop and most of the remaining small intestine are removed, and the ileum, a portion of the small intestine, is brought outside of the belly and joined to the skin on the right hypochondriac region above the groin area (Nakanwagi et al., 2021). Ileostomies are known as "life-preserving operations" because they enable patients to live happy, fulfilling lives in all respects, including social interactions with friends, family, and children, despite having a stoma bag attached. Since this kind of surgery is done for a wide variety of disorders, some of the critical suggestive conditions include malignancy, intestinal polyposis, ulcerative colitis, and Crohn's disease (Verma et al., 2016). Although ileostomy repair is believed to be a straightforward process, there are several potential risks involved, including significant repercussions and even death. The ileostomy will be removed after the original disease's complete remission (Ansari et al., 2015). It has been reported that after ileostomy reversal procedures, the incidence of significant and moderate postoperative complications ranges from 22% to 33%. (Chow et al., 2009; Luglio et al., 2011; Parker et al., 2005). After surgery, the chance of an ileus or small intestine obstruction might increase to twelve percent (12%) post-ileostomy reversal. A thorough analysis of 48 ileostomy restoration studies showed that 2.5% of patients needed surgical reopening procedures, and 7.2% had intestinal blockage (Vermulst et al., 2006). Patients undergoing ileostomy reversal surgery often maintained NPO (not per oral) for four to five days after the procedure (Kasperek et al., 2004). Levin and Wangenstein first developed nasogastric decompression (NGD) in 1921 and 1933. However, in late 1960, concerns were raised about the

everyday use of a nasogastric tube (NG) (Peter et al., 2007). Numerous studies have shown that nasogastric tube implantation might increase hospital stays for patients experiencing discomfort and consequences such as breathing problems; moreover, there are no apparent benefits for patients from NG (Nelson et al., 2005; Savassi-Rocha et al., 1992). According to Qureshi et al.'s research findings, patients who underwent nasogastric tube implantation spent 5.7 ± 1.4 hospital days less after surgery than those who did not (8.1 ± 4.4). The insertion of a nasogastric tube depends on the patient's condition since postoperative issues might impede a patient's movement following surgery (Aziz et al., 2016). Thus, the present research aims to assess the effects of nasogastric tube installation on surgical patients with and without abdominopelvic distention, including temperature, pulse, postoperative hospital stay, flatus passage, and abdominal distention.

Methodology

The present comparative cross-sectional research was conducted at the Mardan Medical Complex's surgical department in Mardan. The research was carried out for a year, from January 2023 to August 2023. Before the research started, the hospital's institutional review board approved it. Using the randomization procedure, out of 100 patients, males seventy-five and female 25 were enrolled. The patients were randomly split into two groups: those without nasogastric tubes were in Group 2, while those with nasogastric tubes were in Group 1. The patients ranged in age from 16 to 55. First, patients received accurate information on the goal of the research as well as any

possible advantages or drawbacks. Before the intervention, each patient gave their informed permission. As per the criterion, ileostomy patients ranging from one month to six months were included in the research. Patients with autoimmune illnesses, chronic conditions including diabetes, cancer, hepatic, renal, or hepatic disorders, and those with anastomosis as a result of gunshot injuries were not allowed to participate in the research. Following surgery, all patients were kept off the grid for three days. The results of the patients in both groups were compared from the day of surgery till the day of hospital release. All the data were examined using SPSS 28, the most recent version.

Results

The current research compared the results of ileostomy reversal in individuals who had and did not have nasogastric tubes. The study's overall sample size was 100 females, 75 (75%) were male, and 25 (25%) were female (Figure 1). The patient's ages are shown in Table 1 at intervals of ten years. Group 1's mean age was 25.22 years, but Group 2's mean age was 26.11 years. Table 2 displays the months of ileostomy length; group 1 had 52.30 % of patients lasting 1-3 months, whereas group 2 had 55%. The hospital stays are shown in Table 3; Group 1's mean stay was 05.55 ±02.45 days, whereas Group 2's was 04.62 ±01.66 days. The daily charting of both groups after surgery is shown in Table #06. The mean pulse rate in group 1 was 86 beats per minute, but group 2's mean pulse rate was 78 beats per minute. In addition, 3 patients (5%) also had abdominal distention. Of the group's patients, 5 (07.5%) experienced abdominal distention. Forty patients (62.35%) in group 1 had flatus at a mean time of 47 ± 04.48 hours, while patients in group 2 experienced flatus at 35 ± 03.31 hours after ileostomy reversal.

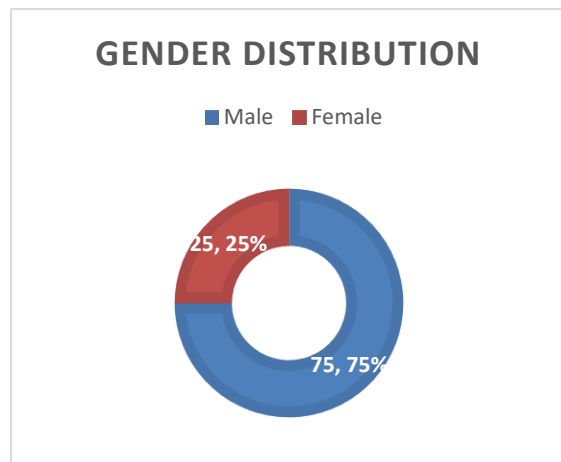


Figure 1: Distribution of gender in the study population

Table 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 2 Percentage of both groups of ileostomy duration in months

Groups	Group 1	Group 2
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 3 Mean hospital stay (days) in both groups

	Group 1	Group 2
Ages (years)	Mean and SD	Mean and SD
Mean stay	05.55 ±02.45	04.62 ±01.66

Table 4 Postoperative daily charting of both groups

Parameter	Group 1	Group 2
Pulse	86 ± 8.54	78 ± 6.76
Abdominal distension	5 (07.5%)	5(5%)
Passage of flatus (hours)	48 hours Meantime	34 hours Meantime

Discussion

This section compares the present study's findings to comparable research projects. Following surgery, the postoperative stay and daily charting of both groups' abdominal distention, flatus passage, and pulse were compared to earlier investigations. According to the present study's findings, patients who did not have a nasogastric tube had better outcomes and had fewer difficulties. 46 (36.80%) were female, and 79 (63.20%) were male. There were 1.7 males for every female. Two groups of patients were formed. Those in group # 01 have had nasogastric tubes inserted, whereas those in group # 02 have not. In our research, group 1's mean age was 25.22 years, while group 2's was 26.11 years. These results are comparable to another study by Aziz M et al., which shows that the mean hospital stay for patients with nasogastric tubes was 8.53 ± 3.78 days, while the mean hospital stay for patients without nasogastric tubes was 5.39 ± 2.51 days (Aziz et al., 2016). Patients with nasogastric tubes had a mean hospital stay of 6.79 ± 2.71 days, while patients without nasogastric tubes had a mean hospital stay of 4.81 ± 2.15 days. Comparable findings from different research by Ansari MS et al. showed that patients receiving nasogastric tubes spent an average of 8.56 ± 3.11 days in the hospital, compared to 5.23 ± 2.61 days in patients not receiving them (Ansari et al., 2015; Eltaybani et al., 2021). The daily postoperative charting for both groups is shown in the present research. The mean pulse in group #01 was 86 beats per minute, while in group #02 was 78 beats per minute. Three (5%) of the patients in group #02 and five (07.5%) of the patients in group #01 also had abdominal distention. In addition, the patients in group #02 had passed flatus with a mean time of 35 ± 03.31 hours following the reversal of ileostomy; similarly, the results of the other research article show 42 ± 5.22 hours and 38 ± 3.74 hours (Khan et al., 2022). The patients in group #01 had passed flatus with a mean time of 47 ± 04.48 hours. Comparable to the research done by Massenga et al. (Massenga et al., 2019), the current study found that 5 (07.5%) of the patients in group #01 and 5(5%) of the patients in group #02 had acquired abdominal distention. Our study's primary sample size restriction is its tiny size. For improved results, more large-scale sample-size research has to be conducted.

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Conclusion

The study found that after ileostomy reversal surgery, patients without nasogastric tubes had shorter mean hospital stays, were less likely to experience abdominal distension, and required less time on average to pass the flatus. In contrast, patients with nasogastric tubes had more extended hospital stays, were more likely to experience abdominal distension, and required more time to pass the flatus.

Declarations

Data Availability statement

All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate

Approved by the department Concerned.

Consent for publication

Approved

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Conflict of interest

The authors declared absence of conflict of interest.

Author Contribution

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