Original Article

Ileostomy Reversal Patients

Compare the Mean Hospital Stay Between Ileostomy Reversal Patients with and Without Nasogastric Tube

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ABSTRACT

Objective: The objective was to compare the mean hospital stay between the ileostomy reversal patients with nasogastric tube and without nasogastric tube.

Study Design: Ccomparative and totally randomized controlled

Place and Duration of Study: This study was conducted at the Department of General Surgery, Ghazi Khan Medical College, D.G Khan from Oct 10, 2015 to April 10, 2016.

Materials and Methods: Totally 60 patients with 20 to 50 years of age of both genders undergoing ileostomy reversal were included. Patients with h/o pelvic irradiations, malnutrition, Diabetes Mellitus and chronic renal failure were excluded. Then selected patients were placed randomly into two groups i.e Group A(ileostomy reversal without nasogastric tube), & Group B(ileostomy reversal with nasogastric tube), by using lottery method. Mean hospital stay was noted in every patient of both groups from day of operation to day of discharge at which final outcome was measured.

Results: The mean age of patients with Group A was 29.44 + 8.28 years and in Group B was 30.12 + 9.09 years. Out of 60 patients 41 were males. and 19 were females with male to female ratio of 2.16:1. The mean duration of ileostomy in group A was 3.13+ 1.43 months and Group B was 3.45+1.21 months. Mean hospital stay in group A (ileostomy reversal without nasogastric tube) was 5.39+2.51 days, while in group B (ileostomy reversal with nasogastric tube) was 8.53+ 3:78 days (p-value <0.0001).

Conclusion: The study concluded that mean hospital stay is shorter after ileostomy reversal without nasogastric tube placement compared with nasogastric tube placement.

Key Words: intestinal stoma, paralytic ileus, discharge, bowel movements

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INTRODUCTION

Placement of nasogastric tube after ileostomy reversal is classic dogmatic teaching in surgical training. Many clinical studies have suggested that this practice does not provide any benefit but could lengthen the hospital stay, in addition to patient's discomfort and respiratory complications. The purpose of this study was to compare the mean hospital stay between ileostomy reversal patients with nasogstric tube and without nasogastric tube. An ileostomy is a surgical opening formed by bringing the end of small intestine (ileum) out onto the surface of skin. Ileostomies are usually sited above the groin in the right lower quadrant of the abdomen.[1]

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There are couples of different types of ileostomies. The most important are two in no. and commonly used. The conventional or BROOKE' ileostomy with pouch applied onto the stoma.[2] The another type is KOCK' ileostomy continent with external valvular stoma.[3] The reversal of ileostomy considered as simple procedure but can be considered with significantly high morbidity & mortality.[4] stoma is closed after maturation and complete recovery after initial illness. Conventionally, after reversal operation, patients are kept nothing per mouth for 4-5 days with nasogastric tube in situ.[5] Many clinical studies have suggested that this practice does not provide any benefit but could lengthen the hospital stay, in addition to hospital discomfort and respiratory complications.[6] This problems combined with discomfort and restrictions in mobility led several to support a selective approach to use the postoperative nasogastric tubes.[7] Then the method with shorter hospital stay could be opted in our routine practice which could save money and time by early discharge from hospital. This can also help the over burden by early discharge and beds availability to other patients in tertiary care hospital.

MATERIALS AND METHODS

A total of 60 patients were studied. The hospital study was from the day of operation to day of discharge from hospital.

All patients with ileostomy of 1-6 months duration as per operational definition and ileostomy formation as damage control (typhoid perforation, TB intestine, post abdominal trauma) were included in this study.

The patients with pelvic irradiation , Malnutrition, diabetes mellitus, chronic renal failure, jaundice and taking steroids were excluded..

RESULTS

Age range in this study was from 20-50 years with mean age of 29.63± 8.58 years. The mean age of patients in groupA was 29.44±8.28 years. Majority of the patients in group B were 30.12±9.09 years. Majority of the patients 23(38.33%) were between 31 to 40 years of age as shown table -1. Out of 60 patients 41(68.33%) were males and 19(31.67%) were females with male to female ratio of 2.16=1.

Means duration of ileostomy was 3.31±1.31 months. The mean duration of ileostomy in group A was 3.13±1.43 months, group B was 3.45±1.21 months. Majority of patients 33 (55.0%) were between > 3to6 months duration as shown in table II. Mean hospital stay in group A (ilepstomy reversal without nasogastric tube) was 5.39 ± 2.51 days while in group B (ileostomy reversal with nasogastric tube) was 8.53±3.78 days .

Stratification of age groups with respect to mean hospital stay has shown in table III. Which showed significant difference in mean hospital stay in all age group, among both Groups.

Similarly statistically significant differences was found in mean hospital stay in both genders among both groups as shown in talble IV. Stratification of duration of ileostomy with respect to mean hospital stay has shown in table V which also showed statistically significant difference among them.

Table No.1: Age distribution for both groups. (n=60)

Age (years)	Group A (n=30)		Group B (n=30)		Total (n=60)	
	No of Patients	%age	No of Patients	%age	No of Patients	%age
20-30	10	33.33	08	26.67	18	30.0
31-40	12	40.0	11	36.67	23	38.3
41-50	08	26.67	11	36.67	19	31.67
Mean ± SD	**29.44± 8.28**		**30.12 ± 9.09**		**29.63±8.58**	

Table No.2: %age of patients according to duration of ileostomy in both groups.

Duration of ileostomy (in months)	Group A (n=30)		Group B (n=30)		Total (n=60)	
	No of Patients	%age	No of Patients	%age	No of Patients	%age
1-3 months	14	46.67	13	43.33	27	45.0
>3-6 months	16	53.33	17	56.67	33	55.0
Mean ±SD	3.13±1.43		3.45 ± 1.21		3.31±1.37	

Table No.3: Stratification of age group with respect to hospital stay.

Age of patients (years)	Group A (n=30)		Group B (n=30)		P-value
	Hospital stay (days)		Hospital stay (days)		
	Mean	SD	Mean	SD	
20-30	4.87	2.11	7.76	3.19	**0.0013**
31-40	5.67	1.89	8.27	3.81	**0.0006**
41-50	5.23	2.45	8.56	3.43	**0.0005**

Table No.4: Stratification of Gender with respect to hospital stay.

Gender	Group A (n=30)		Group B (n=30)		P-value
	Hospital stay (days)		Hospital stay (days)		
	Mean	SD	Mean	SD	
Male	5.06	2.43	8.01	3.21	**<0.0001**
Female	5.62	2.51	8.74	3.89	**0.0026**

Table No.5: Stratification of ileostomy duration with respect to hospital stay.

Duration of ileostomy (in months)	Group A (n=30)		Group B (n=30)		P-value
	Hospital stay (days)		Hospital stay (days)		
	Mean	SD	Mean	SD	
1-3 months	5.12	2.70	8.08	3.01	<**0.0001**
>3-6 months	5.42	2.55	8.61	3.59	**<0.0001**

DISCUSSION

The reversal of loop ileostomy is considered a simple procedure but can be associated with high morbidity and even mortality.[8]

Stoma is closed after maturation and surgery to reverse a stoma is basically to "reconstruct the bowel" and is a successful procedure for the majority of patients.[9]

Placement of NG tube after abdominal surgery after enteric anastomosis is classic dogmatic teaching in surgical training.[10]

The aim of NG is gastric decompression, prevent nausea, vomiting, abdominal distension and pulmonary aspiration and pneumonia, less chance of hernia and earlier return of bowel function and early discharge from hospital.[11]

Current study shows that routine use of nasogastric decompression is associated with pulmonary, electrolyte, mechanical and infectious complications.[12]

Nasogastric intubation is in routine use after abdominal surgeries for last many years. During last few years better concept of perioperative fluid management, early postoperative mobilization and good pain control have changed to whole scenario of postoperative course of patients on surgical floor. These changes have raised the question of routine use of postoperative nasogastric decompression after small bowel anastomosis.[13]

This randomized controlled study has compared the mean hospital stay between ileostomy reversals patients with and without nasogastric tube placement. After few studies on the role of nasogastric decompression after colonic surgery, many surgeons have stopped routine use of nasogastric decompression after colorectal surgery but are still using it in small bowel surgery. Mean hospital stay in grop A (ileostomy reversal without nasogastric tube) was 5.39$\pm$2.51 days while in group B (ileostomy reversal with nasogastric tube) was 8.53$\pm$3.78 days (p- value <0.0001).[14] Qureshi U et al has shown significant differences in mean hospital stay between ileostomy reversal with NG tube and without NG tube i.e 8.1$\pm$4.4 days versus 5.7$\pm$1.4 days respectively. The problems combined with the discomfort and restrictions in mobility led several to support a selective approach to use postoperative nasogastric tube.

Necessity of NG decompression following elective abdominal surgery does not benefit the patients but lengthen the hospital stay. Colvin DB et al.[15] In randomized controlled trials has concluded that there is no extra benefit of placing nasogastric tube.

Many other studies also have shown that there is no significant difference of postoperative hospital stay in patients with and without NG tube placement. WU CC et al. Has also found shorter hospital stay in patients without NG tube placement. Its use shows no significant benefit in reducing the duration of ileus. On the whole, it is concluded that mean hospital stay is shorter after ileostomy reversal without nasogastric tube placement compared to with nasogastric tube placement.

CONCLUSION

The study concluded, that mean hospital stay is shorter after ileostomy reversal without NG tube placement compared to those with NG tube placement.

So the routine use of nasogastric tube placement after ileostomy reversal should be discouraged as it is associated with more expense of money and time.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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