ORIGINAL ARTICLE

Comparison of Mean Hospital Stay between Ileostomy Reversal Patients with and Without Nasogastric Tube Placement

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ABSTRACT

Aim: To compare the mean hospital stay between ileostomy reversal patients with nasogastric tube and without nasogastric tube.

Methods: This Randomized controlled trial was carried out in the Department of General Surgery, D.H.QTeaching Hospital, Dera Ghazi Khan from January 2015 to August 2015. A total of 60 patients, 20 to 50 years of age of both genders undergoing ileostomy reversal were included.

Results: The mean age of patients in group A was 29.44±8.28years and in group B was 30.12±9.09years. Out of 60 patients 41(68.33%) were males and 19(31.67%) were females with male to female ratio of 2.16:1. The mean duration of ileostomy in group A was 3.13±1.43monthsand in group B was 3.45±1.21 days. 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:-This studyconcluded that mean hospital stay is shorter after ileostomy reversal without nasogastric tube placement compared to with nasogastric tube placement.

Keywords: Intestinal stoma, paralytic ileus, discharge, bowel movement.

INTRODUCTION

An ileostomy is a surgical opening constructed for bringing the end or loop of small intestine (the ileum) out onto the surface of the skin. Intestinal waste passes out of the ileostomy and is collected in an external pouching system stuck to the skin. Ileostomies are usually sited above the groin on the right hand side of the abdomen[1].An ileostomy is a life-saving surgery that enables individuals to enjoy a full rangeof activities including traveling, sports, family life and work, even though they have astoma and wear a pouching system[2].Ileostomy surgery is performed for many different diseases and conditions. Some of the indications for ileostomy surgery are ulcerative colitis, Crohn's disease, familial polyposis and complications of cancer[3].There are a couple of different types of ileostomies. For a conventional ileostomy, the surgeon makes a small incision that will be the site of ileostomy. He or she pulls a loop of the ileum through the incision. Then doctor places a rod under the loop. Then he or she cuts the loop open and stitches one side to the abdomen. This part of the intestine is turned inside out, exposing the inner surface. It is soft and pink, like the inside of a cheek. This part that sticks out is called a stoma. It may protrude up to two inches. People with this type of ileostomy, also called a Brooke ileostomy, will not have control of when their fecal waste flows into the external plastic pouch[4].

Another type of ileostomy is the continent, or Kock, ileostomy. The surgeon uses part of the small intestine to form an internal pouch with an external stoma that serves as a valve. These are stitched to the abdominal wall. A few times a day you insert a flexible tube through the stoma and into the pouch. Patients expel their waste through this tube. The advantages are that there is no external pouch, and patient can exercise control over when he/she empty waste. K pouch procedures are now the preferred method of ileostomy as they eliminate the need for an external pouch. K pouch procedures are also sometimes called J pouch procedures[5].

Correct dietary advice is essential in combination with the patient's gastroenterologist and hospital approved dietician. Supplementary foods may be prescribed and liquid intake and output monitored to correct and control output. If output does contain blood at any time, an ileostomate is advised to visit the emergency department.Other complications can include kidney stones, gallstones, and post-surgical adhesion. A 5-year study of patients who had ileostomy surgery in 1997 found the risk of adhesion relatedhospital readmission to be 11%[6].

The reversal of ileostomy is considered a simple procedure but can beassociated with significantly high morbidity and evenmortality[7]. Stoma is closed after maturation andcomplete recovery of patient from his initial illness.The rates of major and minor postoperative complications following ileostomy reversal procedures are reported to range between

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22% and 33%[5,8]. The incidence of smallbowel obstruction or postoperative ileus following ileostomy reversal may be as high as 12%[9].

The purpose of this study was to compare the mean hospital stay between ileostomy reversal patients with nasogastric tube and without nasogastric tube in local population.

MATERIAL AND METHODS

This Randomized controlled trial was carried out in the Department of General Surgery,at D.H,Q Teaching Hospital, Dera Ghazi Khan from January 2015 to August 2015. A total of 60 patients, 20 to 50 years of age of both genders undergoing ileostomy reversal were included. Patients with h/o pelvic irradiation, 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.

RESULTS

Out of 60 patients 41(68.33%) were males and 19(31.67%) were females with male to female ratio of 2.16:1. 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).

Age range in this study was from 20 to 50 years with mean age of 29.63±8.58 years.The mean age of patients in group A was 29.44±8.28years and in group B was 30.12±9.09years. Majority of the patients 23 (38.33%) were between 31 to 40 years of age as shown in Table-I.

Mean duration of ileostomy was 3.31±1.37 months. The mean duration of ileostomy in group A was 3.13±.43daysand in group B was 3.45±1.21 days. Majority of the patients 33(55%) were between >3 to 6 months duration as shown in Table-II.

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 groups among both groups. Similarly statistically significant difference was found in mean hospital stay in both genders among both groups as shown in Table-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

TableI: Age distribution for both groups (n=60).

Age (years)	Group A		Group B	
	n	%age	n	%age
20-30	10	33.3	08	26.8
31-50	12	40.0	11	36.8
41-50	08	26.8	11	36.8
Mean±SD	29.44±8.28		30.12±9.09	

TableII: %age of patients according to duration of ileostomy in both groups

Period month	Group A		Group B	
	n	%age	n	%age
1-3	14	46.7	13	43.3
> 3-6	16	53.3	17	56.7
Mean±SD	3.13±1.43		3.45±1.37	

Table-III: Stratification of age groups w.r.t hospital stay

Age (years)	Group-A		Group-B		P-value
	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-IV: Stratification of Gender w.r.t hospital stay.

Gender	Group-A		Group-B		P-value
	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
41-50	5.23	2.45	8.56	3.43	0.0005

Table-V: Stratification of ileostomy duration with respect to hospital stay

Duration (months)	Group-A		Group-B	
	Mean	SD	Mean	SD
1-3	5.12	2.70	8.08	3.01
>3-6	5.42	2.55	8.61	3.59
41-50	5.23	2.45	8.56	3.43

P-value < o.0001

DISCUSSION

The reversal of loop ileostomy is considered a simple procedure but can be associated with significantly high morbidity and even mortality[10]. Stoma is closed after maturation and complete recovery of patient from his initial illness. Surgery to reverse a stoma is basically to “reconnect the bowel” and is a successful surgical procedure for the majority of patients[11,12]. For most this represents a return to normality and normal bowel function, however it is important to remind that for some the reality may not be as problem free as they might hope. Following a period of recovery the bowel function returns but it is unlikely to be exactly the same as it was prior to your initial operation; it may take a period of a few weeks, months or even a couple of years to settle into a ‘new normal’ routine and it is important to be patient however difficult this may be[13].

Placement of NG tube after abdominal surgery for enteric anastomosis is classic dogmatic teaching

in surgical training[14]. What is to be achieved by this prophylaxis is gastric decompression, a decreased likelihood of nausea and vomiting, decreased distension, less chance of pulmonary aspiration and pneumonia, less risk of wound separation and infection, less chance of fascial dehiscence and hernia, earlier return of bowel function and earlier discharge from hospital[15]. Current studies have shown that routine nasogastric decompression is associated with pulmonary, electrolyte, mechanical and infectious complications[16]. The problems combined with the discomfort and restrictions in mobility led several to support a selective approach to use the postoperative nasogastric tubes[17].

Nasogastric intubation is in routine use after abdominal surgeries for the last many years. During the last few years, better concepts of perioperative fluid management, early postoperative mobilization and good pain control have changed the whole scenario of postoperative course of patients on surgical floor. These changes have raised many questions on routine use of postoperative nasogastric decompression after small bowel anastomosis[18].

Age range in our study was from 20 to 50 years with mean age of 29.63±8.58 years.The mean age of patients in group A was 29.44±8.28years and in group B was 30.12±9.09years. Majority of the patients 23 (38.33%) were between 31 to 40 years of age in both groups. These results are very much similar to studies of Qureshiet al who had found mean age of 31 years respectively[17].

After few studies on the role ofnasogastric decompression after colonic surgery, manysurgeons have stopped routine use of nasogastricdecompression after colorectal surgery but are stillusing it after small bowel surgery[15]. Few studies arepublished to find out the value of prophylacticnasogastric decompression after small bowel surgery. 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).

Thenecessity of nasogastric decompression followingelective abdominal surgery has been increasinglyquestioned over the last several years. Many clinicalstudies have suggested that this practice does notprovide any benefit but could lengthen the hospital stay,in addition to patient discomfort and respiratorycomplication[19]. In a meta-analysis, Jottard et al has compared selectiveversus routine NG decompression after electivelaparotomy which does not support the prophylactic useof NG tube[20]. In July 2004, the Cochrane database ofsystemic review published the results of their systematicreview and concluded that the routinenasogastric decompression should be abandoned infavour of selective use of the NG[21].

Colvin et alin a randomized controlled trials has concluded that there is no extra benefit of placing nasogastric tube[22]. Wolf et alin their studies have shown no significant difference of post-operative hospital stay in patients with and without NG tube placement[23].

CONCLUSION

This study concluded that mean hospital stay is shorter after ileostomy reversal without nasogastric tube placement compared to those with nasogastric tube placement.

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