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1. MBBS, FCPS
Medical Officer,
Department of Surgery Unit-VI
Civil Hospital Karachi.
2. MBBS, FCPS
Senior Medical Officer,
Department of Surgery Unit-V
Civil Hospital Karachi.
3. MBBS, FCPS
Assistant Professor
Department of Surgery,
DUHS.
4. MBBS, FCPS
Assistant Professor
Department of Surgery
DUHS.
5. MBBS, FCPS
Professor
Department of Surgery
DUHS.
6. MBBS, FCPS
Professor of Surgery
DUHS.

Correspondence Address:
Dr. Mubashir Iqbal
Address: A-545, Block H,
North Nazimabad, Karachi.
mubiq@hotmail.com

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POST OPERATIVE BOWEL MOVEMENT;

COMPARISON OF PATIENTS FOLLOWING ELECTIVE STOMA CLOSURE WITH AND WITHOUT PROPHYLACTIC NASOGASTRIC TUBE IN RETURN OF POSTOPERATIVE BOWEL MOVEMENT

Mubashir Iqbal[1], S. A. Sultan Ali[2], Khadija Tul Uzma[3], Farah Idrees[4], Adnan Aziz[5], Naheed Sultan[6]

ABSTRACT... Objectives: To compare early return of bowel movements in patients with elective stoma closure with or without nasogastric tube. **Place and Duration:** Single surgical unit, Civil Hospital, Karachi, from January 2015-August 2016. **Methods:** This prospective double blind randomized control trial of 114 patients for elective stoma (Ileostomy, colostomy) closure in which lottery method was used to divide the patients into control group (with nasogastric tube) and study group (without nasogastric tube). Post operatively total duration from the surgery till the patient passed first flatus was recorded in hours between the control and study groups. **Result:** Comparison between two groups, the passage of first flatus after reversal of stoma a mean difference of 19.7 was observed in hours between the control and study groups. **Conclusion:** Prophylactic nasogastric decompression in stoma closure patients can be omitted from routine postoperative period without any management problem.

Key words: Nasogastric Tube, Decompression, Elective Surgery, Stoma Closure.

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INTRODUCTION

Nasogastric tube was first made to feed the sick patients.[1] Levin in 1921 introduced nasogastric (NG) tube in general surgery.[2] Postoperative abdominal distension prevented by nasogastric tube decompression was demonstrated by Iver et al., is result from swallowed air and could be prevented by the NG tube.[3] Nasogastric tube decompression became the part of surgical management at the early 20th century with the advancement of aseptic technique, general anesthesia and encouraging success in major abdominal surgeries and along with that, to avoid postoperative ileus, nausea, vomiting and wound complications.[4] These rules remained same for gastrointestinal decompression following resection and anastomosis of digestive tract. Its aims to hasten return of bowel movements, prevent pulmonary complications, diminish the risk of anastomotic leakage, and increase patient's comfort and shorten hospital stay.[5] Until 1963, Graber noted that routine nasogastric tube decompression was pointless and associated with complications like sinusitis, nasolaryngeal/ vocal cords trauma, gastroesophageal reflux, basal atelectasis due to poor cough reflex leading to aspiration pneumonia and electrolytes imbalance.[4,6,7,8] It is now being used for almost 100 years, but it is one of the most painful procedure performed in medicine. The nose is very highly innervated and a very uncomfortable part of the body to manipulate. Stimulation of the posterior pharynx often causes gagging and vomiting.[9] Many randomized control trial, like H. G. Vinay, ($p<0.000$)[10], Ming-Hui Pang ($p<0.05$ for diet, $p=0.02$ for flatus)[11], Nadia Shamil[12], Nadim Khan ($p>0.005$)[13], have revealed that nasogastric (NG) tube decompression can safely be omitted from routine postoperative care.

The object of the study was to compare the average postoperative time taken for passage of first flatus, which is a representative of return of bowel movement following elective stoma closure with or without nasogastric tube. This in turn resulted in avoiding other NG tube

associated complications, smooth recovery and early discharge from the hospital.

MATERIAL AND METHODS

This prospective double blind randomized control trial was conducted at surgical unit, Civil Hospital, Karachi, from January 2015-August 2016. A total of 114 patients (57 in each control & study group) were included in the study by lottery method. Patients after 3 months for elective reversal of stoma following Ileostomy, colostomy were included in the study. Patients with stoma formation following postoperative complication like fecal fistula, anastomotic leak and burst abdomen were excluded from the study. As well as patients suffering from chronic diseases like malignancy, diabetes, tuberculosis or using steroids were also excluded from the study. All patients were admitted through outpatient department. Informed consent was taken, proforma was used to document findings. Using lottery method, patients were divided in control group (57 patients, in which French 18 Ryle'snasogastric tube passed and connected to a drainage bag before giving anesthesia) and study group (57 patients without nasogastric tube). Single layer extra mucosal interrupted suturing with vicryl 2/0 was used for anastomosis in both groups for stoma closure. Post operatively return of bowel movement was considered when the patient passed first flatus after surgery noted by the patient and recorded by duty resident doctor. Total duration from the surgery till the patient passed flatus was recorded as overall mean and mean in control & study groups in hours.

Data was entered and analyzed in SPSS-16. Frequency and percentage was computed for categorical variables like gender. Mean ± standard division (SD) were computed for numerical variables like age, time of passage of flatus (in hours).

RESULT

A total of 114 patients were randomly divided into two groups of 57 patients each. Control group with nasogastric tube whereas study group without nasogastric tube. The overall mean± SD for age was 33.4 ± 9.9 years, whereas mean± SD for age in control & study groups were 31.1± 9.6 & 35.7 ± 9.9 years respectively. Majority 65 (57%) of the patients had the age between 18 to 33 years. There were 38 (66.7%) males and 19 (33.3%) female in control group, while 43 (75.4%) males and 14 (24.6%) females in study group. The overall mean passage of first flatus after reversal of stoma was 54.3 ± 12.6 hours. Whereas, the mean ± SD for passage of first flatus after reversal of stoma in control group was 64.5 ± 7.4 and in study group was 44.8 ± 6.8. The mean difference for passage of first flatus between two groups (control & study) were 19.7 hours, which was the delay time recorded in patients who had nasogastric tube decompression following elective stoma reversal. So, this mean delay can be taken as delay in return of bowel motility in control group. (Table-I)

S. No.	Variables	Control Group (n=57)	Study Group (n=57)	Mean
1	Age (Years)	31.1± 9.6	35.7 ± 9.9	33.4 ± 9.9
2	Gender	38(66.7%) Males 19 (33.3%) Female	43(75.4%) Males 14 (24.6%) Females	–
3	Passage of first flatus (hours)	64.5 ± 7.4	44.8 ± 6.8	54.3 ± 12.6
4	Difference for passage of first flatus between two groups (control & study) in hours			19.7

Table-I

DISCUSSION

The two groups (study & control) showed statically homogenecity of their baseline characteristics, which is similar to the study conducted by D Koukouras[14], in a slightly different study conducted by H.G. Vinary[10], for elective bowel surgery with or without prophylactic nasogastric decompression also had similar demographic groups. Nasogastric tube intolerance was common complaint noted by Michele Tanguy[8] which is also the chief complaint in control group in our study. The mean ± SD for passage of first flatus after reversal of stroma was low in study group as compare to control group, as well as

therewas a mean difference of 19.7 hours in control and study groups. This was in fact delay in return of bowel motility in control group. A review of 37 prospective randomized control trials in 2010, by Cochrane, for evidence against prophylactic NG tube and oral restriction mentioned early return of bowel function in patients without NG tube with a p value of <0.00001, which resembles to our study. Early passage of flatus indicates early return of bowel movement which in turns result in smooth recovery as well as shorter hospital stay. Cochrane also noted early return of flatus (average time to return of flatus in group with NG tube is 3.7 days compared with 3.2 days in group without a NG tube p= 0.02).[4] A slightly different study in which the NG tube was removed immediately after surgery or in recovery room in study group, but it is different in control group according to the passage of flatus and finding of bowel sounds. The time of removal of NG tube in control group ranged from 2 to 6 days., whereas, the first postoperative bowel sound was heard earlier (2.02 days) in study group as compare to the control group (2.96 days).[10] Similar results were noted with Cheadle et al.[15] Which is again like what noted in our study. Bradshow BG[16], showed one day early passage of flatus following removal of NG tube on operative day, study patients were also discharge one day before the control group. However, Tanguy et al., found that routine gastric decompression neither hastens the return of bowel function nor diminishes the incidence of postoperative nausea and vomiting.[8] Our study object did not aim to record discharge, but early postoperative recovery indicates an early discharge. A similar study conducted by Muhammad[17] and Nadim Khan[13] showed shorter mean hospital stay in patients with ileostomy reversal without NG tube compare to with NG tube placement. With the advent of enhanced recovery after surgery (ERAS) in colorectal, there is avoidance of nasogastric tubes, peritoneal drains, aggressive management of postoperative nausea, vomiting, early oral feedings and ambulation.[18]

CONCLUSION

The routine prophylactic use of nasogastric tube decompression after stoma reversal does not improve time for early return of bowel movement so offer no patient benefit rather it delays first passage of flatus. This in turns delays early recovery and increases hospital stay.

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Happiness is in the heart,
not in the circumstances.

– Unknown –

AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Mubashir Iqbal	Primary Author	
2	S. A. Sultan Ali	Article search + Co-author + Data collector	
3	Khadija Tul Uzma	Data collector + Co-author	
4	Farah Idrees	Help out different articels search + Co-author	
5	Adnan Aziz	Reveiw and finalzing manuscript	
6	Naheed Sultan	Review finalizing manuscript	