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Pattern of Fluid and Electrolyte Imbalance in Early Postoperative Period Following Temporary Ileostomy

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Abstract **Original Research Article**

Background: There are complications of ileostomy development, including fluid and electrolyte imbalance. Although predictors of high morbidity have been established by studies, readmission rates remain high. ***Objective:*** In this study, our main goal is to evaluate the patter of fluid and electrolyte imbalance in the early postoperative period of a temporary ileostomy. ***Method:*** This retrospective study was conducted at a tertiary medical college and hospital from January 2017 to December 2019. A total of 120 patients with ileostomy creation, were included in this study. We obtained the medical records and compiled data of the patients admitted to the hospital. ***Results:*** In this study, 60% of patients were male and 40% were female. Maximum (40%) patients were between 40-49 years of age group. Among 120 patients, 49 were readmitted due to fluid and electrolyte abnormalities and 27 were readmitted due to other diagnoses. Only the use of antidiarrheals and neoadjuvant therapy remained important after multivariate review. ***Conclusion:*** Our study concluded that the use of a patient should be carefully checked at home postoperatively. Our study also recommends the thought of shirking of ileostomy creation or diverse release standards for patients at risk. Postoperative findings showed that stoma checking after release may help decrease rehospitalizations for liquid and electrolyte anomalies after ileostomy creation. Antidiarrheals might be a marker for patients in danger for patter fluid and electrolyte imbalance.

Keywords: ileostomy development, electrolyte imbalance, patients, patter fluid.

INTRODUCTION

The invention of an ileostomy is an ordinarily performed strategy in the field of colorectal medical procedures. Since Brooke altered the strategy in 1952 [1], ileostomy has become the essential choice for fecal redirection in numerous cases. The signs for an occupying ileostomy are different and incorporate both crisis and elective procedures [2-7]. Ileostomy development is demonstrated for entrail ischemia, gut hindrance, fiery gut ailment, malignant growth, and tasks with an expanded danger of anastomotic hole. For patients who go through proctectomy for the rectal disease after preoperative chemotherapy and radiation, fecal preoccupation has not been found to influence the occurrence of anastomotic hole; rather, it diminishes the related morbidity [8, 9]. Still, production of an ileostomy includes its own perioperative and postoperative difficulties; a rate of 20–60% was accounted for in the literature [10-12]. These confusions incorporate stoma stenosis, retraction, necrosis, small bowel obstruction, skin excoriation, and fluid and electrolyte abnormalities. There are presently not many realized danger components to foresee which patients are at expanded danger for clinic readmission following ileostomy creation. Emergency clinic readmission inside 30 days after the medical procedure is getting expanded consideration as an exorbitant and conceivably preventable difficulty after a medical procedure. A few investigations have recognized high stoma yield as an antecedent to parchedness or renal dysfunction [13]. These morbidities have an announced rate somewhere in the range of 1 and 17% and are liable for 4–43% of readmissions for ileostomy patients [13-16]. Although a few examinations have distinguished components that may anticipate this dreariness,

readmission rates stay high. This study aims to evaluate the patter of fluid and electrolyte imbalance in the early postoperative period of a temporary ileostomy. This might help us to create strategies that decrease readmission for fluid and electrolyte abnormalities.

OBJECTIVE

In this study, our main goal is to evaluate the patter of fluid and electrolyte imbalance in the early postoperative period of a temporary ileostomy.

METHODOLOGY

Type of study	Retrospective study
Place of study	Tertiary medical college and hospital
Study period	January 2017 to December 2019
Study population	A total of 120 patients with ileostomy creation, were included in this study
Sampling technique	Purposive sampling

METHOD

- We obtained the medical records and compiled retrospective data chart of120 patients with temporary ileostomy creation, admitted to the hospital. All data were received through the complete written consent of the patients and the hospital.

STATISTICAL ANALYSIS

- Collected data was collated and appropriate statistical analysis was done using a computer-based SPSS (Statistical Program for scientific study) package. All p values were two-tailed, and $p<0.05$ was the criterion for statistical significance.

RESULTS

Table-1 shows the age distribution of the patients; the range was 20-79 years. Maximum (40.7%) patients were in the age group of 40 – 49 years. The following table is given below in detail:

Table-1: Distribution of patients according to age (n=120)

Age (years)	Percentage (%)
20-29	11.6%
30-39	13.8%
40-49	40.7%
50-59	21.1%
60-69	8.33%
70-79	4.47%

Figure-1 shows the gender distribution of the patients where 60% of patients were male, 40% were female. The following figure is given below in detail:

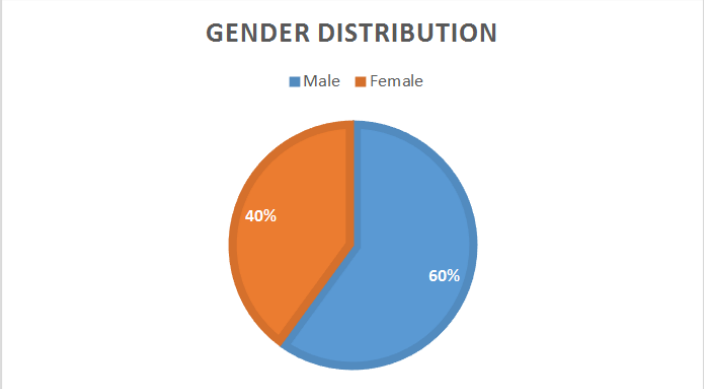

Fig-1: Gender distribution of the patients

The Table-2 shows diagnosis reports and sign and symptoms of the patients where most of the patients (59) had Inflammatory bowel disease, 40 had cancer, followed by 5 had colonic inertia, 2 had an anastomotic leak, 4 had diverticulitis, 2 had a perineal fistula, 3 had a colonic obstruction, 4 had Rectal prolapse and 1 had Colonic stricture. The following table is given below in detail:

Table-2: Sign and symptoms of the patients

Sign and symptoms	Number of patients
Cancer	40
Inflammatory bowel disease	59
Colonic inertia	5
Anastomotic leak	2
Diverticulitis	4
Perineal fistula	2
Colonic obstruction	3
Rectal prolapse	4
Colonic stricture	1

Figure-2 shows the type of ileostomy of the patients according to the diagnosis findings where 96 patients had loop ileostomy and 24 patients had end ileostomy.

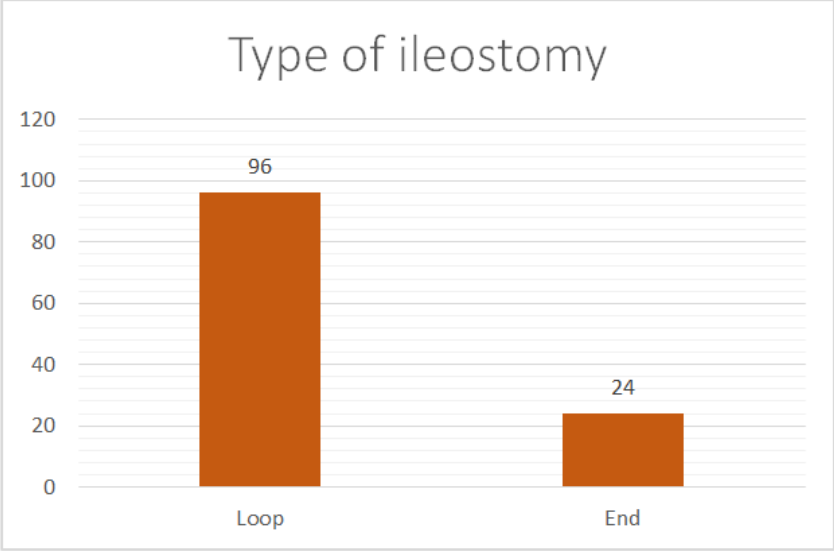

Fig-2

The Table-3 shows all medications at discharge time of patients also the postoperative findings of the readmission cause of patients. Among 120 patients, 49 had fluid and electrolyte imbalance at the early postoperative time and 27 had other diagnoses for the readmission.

Table-3: Medications at discharge and readmission of patients

Variables	Number of patients
Medications at discharge	
Narcotics	92
Fiber	18
Anti-diarrheals	65
Ileostomy reversal	103
Readmission	
For any diagnosis	27
Fluid and Electrolyte abnormalities	49

DISCUSSION

High stoma yield is portrayed by expanded loss of water and sodium in the fecal waste, which may prompt hyponatremia, dehydration, and hyperaldosteronism [17]. Hypomagnesemia might be available in the early postoperative period, yet it is more continuous in patients with longstanding ileostomies [17, 18]. Some of the basic reasons for high ostomy yield are proximal stomas, short bowel syndrome (less than 200 cm of small bowel remaining), intra-abdominal sepsis, enteritis, medications, and small bowel obstruction. Beck-Kaltenbach *et al.*, indicated that ileostomy development is a danger factor for renal impairment [13]. Most of the patients gave just moderate abatements in GFR that were not clinically huge; nonetheless, 30% of the patients were found to have renal disappointment auxiliary to lack of hydration, requiring readmission [13, 17]. Our findings

are consistent with other studies: readmission happened most oftentimes inside a multi-week of release, like the timetable depicted as the basic time frame for intricacies, happening between postoperative day two and eight by Tang *et al*., [19] We examined preoperative conditions, perioperative course, and clinical status at release (drugs, electrolyte balance, stoma yield, and pee yield). The majority of the factors were not related to readmission, which matches different investigations that propose readmission after the colorectal medical procedure may not be anticipated by postoperative clinical information [20]. Other examinations trait early release to early readmission, since patients may give difficulties at home rather than while hospitalized [20]. Anti-diarrheals, for example, loperamide, have been appeared to diminish day by day misfortunes of sodium and potassium, forestalling electrolyte imbalances. In our investigation, the remedy against diarrheal at release was related to readmission because of parchedness. Even though our investigation neglected to show a relationship between high stoma yield and readmission rate, the utilization of antidiarrheals might be a marker for high stoma yield. We assessed careful variables including kind of ileostomy, manifestations, and the reason for the readmission of the patients. Pastry specialist et al. recommended that patients with high stoma yield may be overseen at home by confining the volume of oral ingestion and the utilization of glucose–electrolyte arrangements and against motility prescriptions. Our study is limited by its retrospective design. Data was gathered from clinical records of hospitalizations, however, didn't consider patients that may have gotten treatment at different organizations, workplaces, or home visits.

CONCLUSION

It can be concluded that the use of antidiarrheals might be a marker for patients in danger for patter fluid and electrolyte imbalance; these patients ought to be carefully checked at home. Our investigation recommends the thought of shirking of ileostomy creation or diverse release standards for patients at risk. Postoperative findings showed that stoma checking after release may help decrease rehospitalizations for liquid and electrolyte anomalies after ileostomy creation. Early intervention and prevention are better strategies, it is indistinct which components should be remembered for a postoperative consideration pathway to accomplish ideal results.

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