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Hand-sewn versus stapled closure of loop ileostomy

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Abstract
Background: Individual trials comparing hand-sewn with stapled closure of loop ileostomy show different outcomes. This study is aimed to compare hand-sewn with stapled anastomotic technique for closure of a loop ileostomy and looked at the effect of bowel resection on the complication rates.
Methodology: All the patients who were admitted to Dhiraj hospital for ileostomy closure were enrolled in our study after taking consent.
Results: Total 10 patient were enrolled in this study. After confirming distal clearance and logogram patients were posted for surgery. 7 patients underwent hand-sewn closure and 3 patients underwent stapled closure. Mean operative time in hand-sewn method was 45 min vs 30 min in stapled method. There was no leakage in both groups. Post operatively 3 patients of hand-sewn group presented with distention and features of obstruction; all of them managed conservatively.
Conclusion: This study shows superiority of stapled closure of loop ileostomy compared to handsewn closure in terms of bowel obstruction rate and mean operation time. Even so, both techniques are options with opposing advantages and disadvantages.

Keywords: Hand-sewn, stapled closure, ileostomy

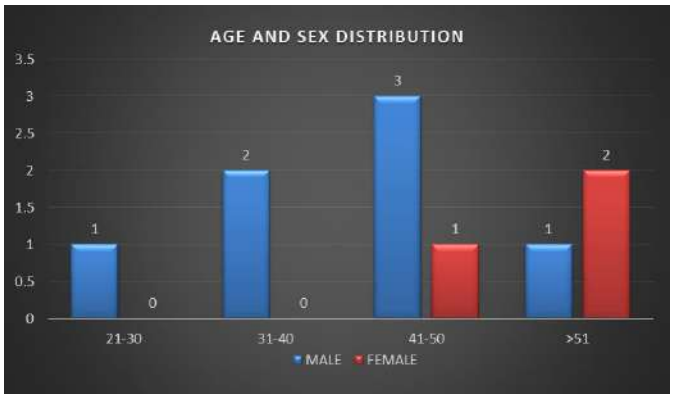
Introduction
Loop ileostomies are generally formed in colorectal surgery in order to defunction distal enteric disease or anastomoses [1, 2]. Diverting loop ileostomy is useful for reduction of the consequences of an anastomotic leak and is considered by some authors to reduce the incidence of anastomotic complications [3]. Although the mortality rate after the reversal of ileostomy is 0.1-4% [4, 5, 6], wound infection and small bowel obstruction remain the most common and irritating complications [6, 7]. In particular, complications increase medical costs, prolong hospitalization time, and increase the need for outpatient care as well as the risk of late complications such as incisional hernia. This study is aimed to compare hand-sewn with stapled anastomotic technique for closure of a loop ileostomy and looked at the effect of bowel resection on the complication rates.

Methodology
All the patients who were admitted to Dhiraj hospital for ileostomy closure were enrolled in our study after taking consent. Closure of the loop ileostomy was carried out under general anesthesia. Systematic prophylactic antibiotics (Cefuroxime 1.5 g and metronidazole 0.5 g) were administered to all patients prior to the operation.
In Group A: Hand-sewn anastomosis without a short small bowel resection was performed by mobilizing the small bowel as much as needed for closing the stoma. The skin edges of the stoma were excised. In hand-sewn anastomosis with a short small bowel resection, the small intestine was mobilized from the abdominal wall in similar fashion and the exteriorized stomal part was resected. Bowel closure was done in two layer using interrupted silk sutures for an outer inverted seromuscular layer and a running absorbable suture Vicryl (Polygalactin) for a transmural inner layer. The abdominal wall was closed using continuous suture for the anterior fascia.
Group B: In stapled anastomosis with a short small bowel resection, the small intestine was mobilized from the abdominal wall in similar fashion and the exteriorized stomal part was resected. Bowel closure was done using linear stapler (Side to side anastomosis) and stoma was closed with L stapler.
Mean operative time was noted. The complications were assessed within the first 30 days after surgery and 6 months follow up was kept.

Results and Discussion

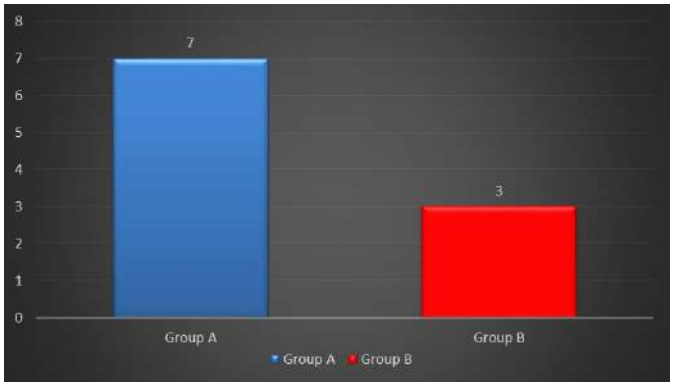
Total 10 patient were enrolled in this study.

Age and Sex Distribution

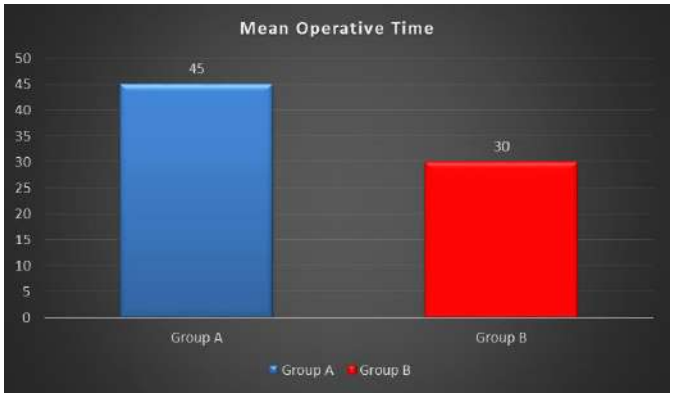


There were 7 male and 3 female patients in present study.

Group Distribution



7 patients underwent hand-sewn closure and 3 patients underwent stapled closure.



Mean operative time in hand-sewn method was 45 min vs 30 min in stapled method. There was no leakage in both groups. Post operatively 3 patients of hand-sewn group presented with distention and features of obstruction; all of them managed conservatively.

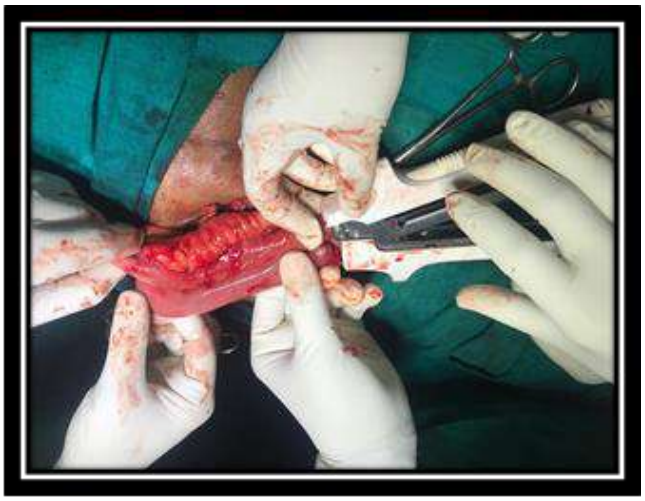


Fig 1: Stapled anastomosis (side to side)

Fig 2: Closure and stump: (L stapler)

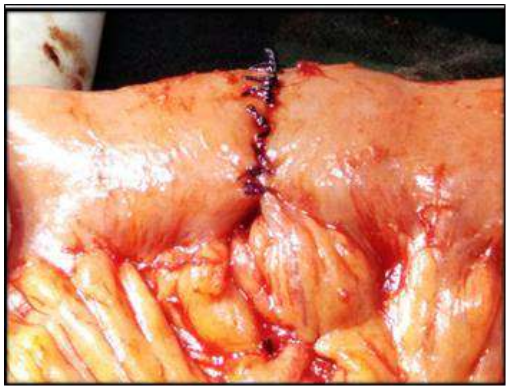


Fig 3: Hand sewn anastomosis

Fig 4: Hand sewn anastomosis

Conclusion

This study shows superiority of stapled closure of loop ileostomy compared to handsewn closure in terms of bowel obstruction rate and mean operation time. Even so, both techniques are options with opposing advantages and disadvantages.

References

1. Bax TW, McNevin MS. The value of diverting loop ileostomy on the high-risk colon and rectal anastomosis. Am J Surg. 2007; 193:585-587.
2. Huser N, Michalski CW, Erkan M, *et al.* Systematic review and meta-analysis of the role of defunctioning stoma in low rectal cancer surgery. Ann Surg. 2008; 248:52-60.
3. Winslet MC, Barsoum G, Pringle W, Fox K, Keighley MR. Loop ileostomy after heal pouch-anal anastomosis-is it necessary? Dis Colon Rectum. 1991; 34:267-270.
4. Wong KS, Remzi FH, Gorgun E, Arrigain S, Church JM, Preen M, *et al.* Loop ileostomy closure after restorative proctocolectomy: outcome in 1,504 patients. Dis Colon Rectum. 2005; 48:243–250.
5. Chambers WM, Mortensen NJ. Postoperative leakage and abscess formation after colorectal surgery. Best Pract Res Clin Gastroenterol. 2004; 18:865-880.
6. Chow A, Tilney HS, Paraskeva P, Jeyarajah S, Zacharakis E, Purkayastha S. The morbidity surrounding reversal of defunctioning ileostomies: a systematic review of 48 studies including 6,107 cases. Int J Colorectal Dis. 2009; 24:711-723.
7. Kaidar-Person O, Person B, Wexner SD. Complications of construction and closure of temporary loop ileostomy. J Am Coll Surg. 2005; 201:759-773.