IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 19, Issue 12 Ser.3 (December. 2020), PP 01-02
www.iosrjournals.org

High Loop Jejunostomy: An Aggressive Stoma.

Raj Kumar Sharma[1], Som Raj Mahajan[2], Gunjan Modgil[4*], Vikrant Sharma[3], Prateek Sood[3], Srijan Pandey[4], Gaurav R. Kumar[4], Sahil Mahajan[4], Mast Ram[4]

[1]*Professor, Department of Surgery, Dr. Rajendra Prasad Government Medical College Kangra at Tanda, Himachal Pradesh, India*

[2]*Assistant Professor, Department of Surgery, Dr. Rajendra Prasad Government Medical College Kangra at Tanda, Himachal Pradesh, India*

[3]*Senior Resident, Department of Surgery, Dr. Rajendra Prasad Government Medical College Kangra at Tanda, Himachal Pradesh, India*

[4]*Junior Resident, Department of Surgery, Dr. Rajendra Prasad Government Medical College Kangra at Tanda, Himachal Pradesh, India*

**Corresponding author: Dr. Gunjan Modgil*
Department of Surgery, Dr. Rajendra Prasad Medical College Kangra at Tanda
Himachal Pradesh, India 176002

Abstract
A 69-year-old male with past history of bilateral inguinal mesh hernioplasty and left sided mesh removal presented in emergency with intestinal obstruction. On index laparotomy,resection anastomosis of stricturous part of ileum was done. A relaparotomy for acute generalized peritonitis due to anastomotic leak was done and Reanastomosis with proximal diverting jejunostomy was fashioned. Post operatively the patient developed high output high intestinal stoma which was managed with aggressive TPN and early restoration of bowel continuity.Post operatively the patient developed low output controlled enterocutaneous fistula which closed spontaneously after 2 months.

Keywords: *jejunostomy, anastomotic leak, high output stoma*

Date of Submission: 24-11-2020 Date of Acceptance: 08-12-2020

I. Case Report:

A 69-yearmale adult presented in the emergency with small bowel obstruction. Patient had history of similar complaints on and off for the last 4 months. Patient hadundergone bilateral inguinal mesh hernioplasty 10 months back and removal of infected mesh on the left side 7 months back. On investigation the hemoglobin of patient was 15.1gm%, serumalbumin was 3.1gm% and the weight was 55 kgs. Rest of the investigations including renal and liver function test & blood sugar were normal.

On exploration, a pregangrenous segment of about 6 cm with stricture was present in the jejunum about 120 cm proximal to Ileocecal junction. Thissegment was adherent to anterior abdominal wall in the region of previous surgical scar. Resection of the pregangrenous sticturous segment with end to end double layer anastomosis was done.

Patient developed grade three surgical site infection on 3rd post operative day which progressed to grade five with acute generalized peritonitis due to anastomotic leak on 5th post-operative day. Patient was reexplored, end to end single layer anastomosis was redone and a protective proximal loop jejunostomy was fashioned.

Patient developed Acute respiratory distress syndrome on 5th post reexploration day and was kept under ICU care for 3 days. In the second week patient developed peri stomal skin excoriation. Due to heavy skin excoriation, high stomal output and bulky size of loop jejunostomy, stoma bag applications failed hence collection and distal feeding of the stomal content was not possible. As a result of a high output stoma, patient soon became severelymalnourished and lost 20 kg weight in a fortnight. Sensing impending doom, aggressive total parenteral nutrition and skin care was started.

The peristomal skin condition improved and patient started gaining weight and patient's condition stabilized.However, his performance status remained poor and was unfit for general or even spinal anesthesia. Restoration of bowel continuity was attempted under TAP block supplemented with local infiltration on 36th post re-exploration day.

Patient developed enterocutaneous fistula on post-operative day 6 with an average daily fistula output of 50-100 cc. Since the fistula was a low output-controlled fistula and stomal bag could be easily applied, the

patient was discharged on 13th post-operative day.On follow up the fistula healed spontaneously after two months.

II. Discussion:

Healing of bowel anastomosis proceeds in a step wise, time dependent fashion. While doing the resection anastomosis of bowel, hand sewn end to end eneterostomies are physiologically superior to stapled "functional" end to end anastomosis (1). In the present case hand sewn end to end continuous inverting bowel anastomosis was done and later on the anastomotic leak occurred due to giving way of anterior layer of the anastomosis. Studies conducted so far do not show a significant difference between the single layer and double layer intestinal anastomosis. Double layer intestinal anastomosis is time consuming and challenging to perform (2). In the present case the surgeon chooses the double layered anastomotic technique based on his experience.

The risk of anastomotic leak in proximal jejunal anastomosis is high because the decompression cannot be performed perfectly. various autologous gastrointestinal reconstruction techniques such as gastrojejunostomy have been proposed to solve this problem. (4) Vicky S. budipramana et. Al reported BISHOP-KOOP modification technique following proximal jejunal anastomosis, wherein 14-fr Foley catheter tube and another 14 FR NG tube through the anastomotic site helped to decompress the jejunal content without performing duodenostomy or gastrostomy. This modified method was reported to protect the primary anastomosis and decreased the chance of anastomosis leak related complications.

Malnutrition is often blamed for the failure of intestinal anastomosis. There is a straight correlation of hypoalbuminemia with poor outcomes, including failure of bowel anastomosis (3). In the present case the albumin levels at the time of first surgery were 3.1 gm% and at time of restoration of bowel continuity was 2.8 gm%. The failure of the anastomoses both the times can be attributed to malnutrition.

Not much literature is available on diversion jejunostomies and their management . Furthermore, no standard management protocol is present in case of high output jejunal leaks. Proximal intestinal stomas are usually high output and require a holistic approach regarding the management of nutritional needs of the patients.

Patients with ileostomies have problems most often related to maintenance of seal of the appliances. the most common complication is chemical dermatitis. Our patient also developed severe chemical dermatitis in peristomal skin which hampered the proper stoma management.

The high output jejunostomy and its related complications lead to prolonged hospital stay, increased morbidity and increased burden on the resources, both of the patient and the hospital. Hence there is a need for more extensive trials in management of patients with jejunal anastomotic leaks and for finding alternatives to diversion jejunostomies.

III. Conclusion

To conclude, loop jejunostomy or diverting jejunostomy is an aggressive stoma which quickly drains the patient therefore high/loop jejunostomies should be avoided whenever possible, if that is not feasible, it should be managed with equal aggression.

DECLARATION
Funding- No funding sources
Conflict of interest- none
Ethical approval- not required

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Dr. Gunjan Modgil, et. al. "High Loop Jejunostomy: An Aggressive Stoma." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(12), 2020, pp. 01-02.