

Exteriorisation Of Small Bowel Anastomosis in Perforation Peritonitis

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Summary

A patient had presented with a proximal bowel perforation in septic shock. Given the high-risk status of the patient for any anastomosis, we took a measured approach to walk the thin red line dividing, the risk of a catastrophic anastomotic leak, and high proximal stoma outputs. We decided to exteriorize the anastomotic segment, close observation of the suture line, and pass a feeding tube across the anastomosis to improve apparent postoperative morbidity. This procedure was safe and helped salvage bowel continuity in a nutritionally depleted patient.

Background

The complications of proximal bowel stoma and proximal small bowel anastomosis lead to further patient deterioration. In the case of a proximal small bowel stoma, this would result in a high output stoma, leading to dyselectrolytemia and other nutritional loss. It can be challenging to replace gastrointestinal losses. In the case of a proximal small bowel anastomosis in a septic patient, the probability of an anastomotic leak is high, especially if the patient is on ionotropic support and hypoalbuminemic.

Exteriorization of the proximal anastomosis has been described to prevent life-threatening complications. We have added a feeding jejunostomy tube across the anastomosis via a proximal enterotomy to continue enteral nutrition.

Keywords: Peritonitis, Exteriorization

Case Presentation

A 61-year-old lady presented to the emergency department in shock. She had presented with a 10-day history of

gradually worsening abdominal pain. She had two days of vomiting and nausea. Fever was present for one day. She had diabetes on medication. On examination, she presented with a heart rate of 130/min and blood pressure of 90/60 mmHg. She was pale, and her peripheries were cold. Her abdomen was peritonitic with loss of liver dullness. There was decreased breath sound in bilateral lower lung zones. Both the lower limbs had pitting edema.

Investigations

Blood investigations revealed a hemoglobin of 9 gm%, total counts of 17000/mm³ with a left shift, and hypoalbuminemia. An X-ray abdomen was suggestive of a pneumoperitoneum.

Diagnosis

She was diagnosed with a hollow viscus perforation in septic shock.

Treatment

She was resuscitated with crystalloids, started in broad-spectrum antibiotics, and started on ionotropic supports. She was shifted to the surgical ICU and stabilized before surgery. She underwent a damage control laparotomy, bowel resection, and proximal and distal small bowel stapling. A proximal perforation was 80 cm from the duodenojejunal flexure with two distal strictures. As her condition worsened intraoperatively, the damage control surgery was done. She was transferred back to the ICU and was stabilized. A re-laparotomy and exteriorization of the anastomotic segment with proximal feeding jejunostomy were performed after 48 hours of stabilization (Figure 1, Figure 2).

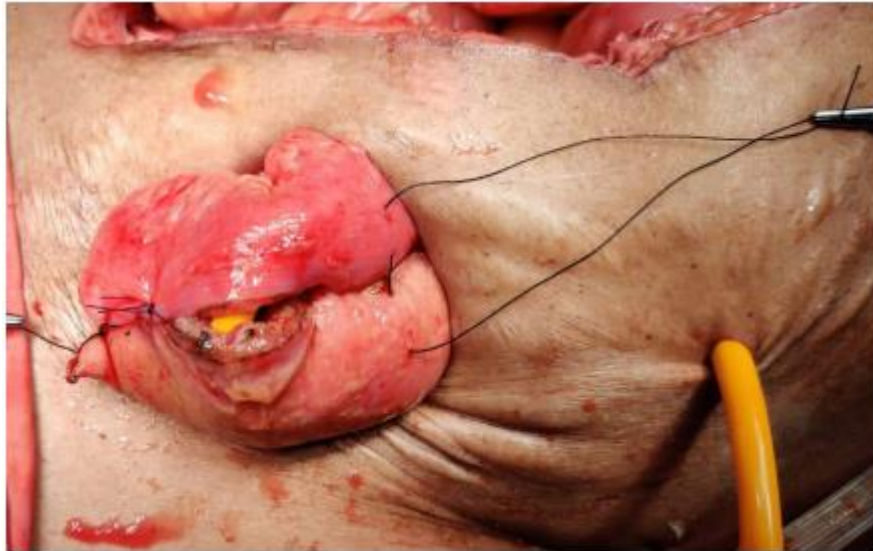


Figure 1: Proximal and distal bowel loops with side to side anastomosis. The proximal feeding Jejunostomy is seen crossing the anastomosis.

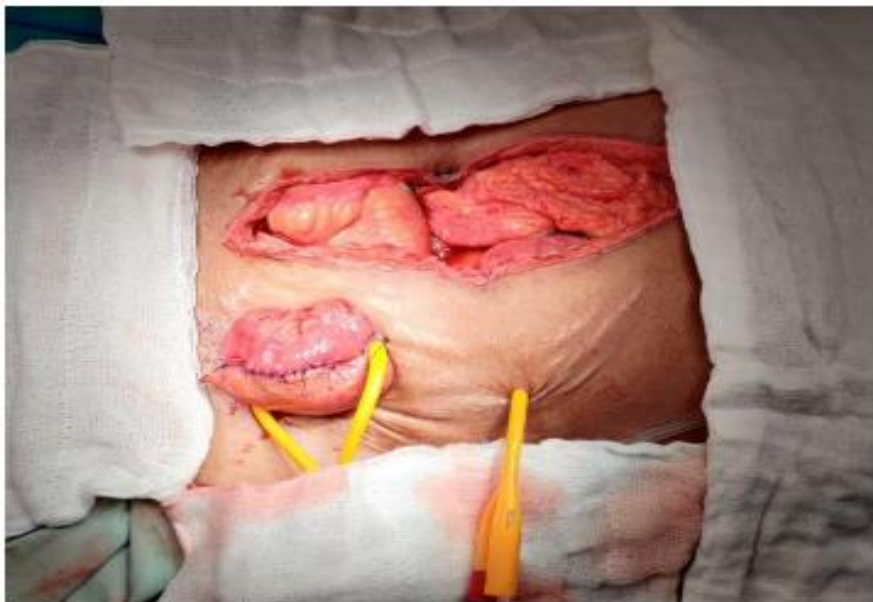


Figure 2: Exteriorized proximal jejunum with a feeding jejunostomy across the segment.

The stapled proximal and distal limbs were brought out through a trephine opening in the left iliac fossa through the rectus muscle. A proximal feeding jejunostomy tube was placed 10 cm proximal to the anastomosis. An 18Fr foleys catheter was used as a feeding tube. It was negotiated to 15 cm beyond the side to side anastomosis. The side-to-side anastomosis was done in a single layer with 3 0 Polydiaxanone suture material. The bowel was sutured to the rectus sheath at the 12, 3, and 9 O Clock positions with 3 0 Silk sutures. A foleys bridge was placed through to the mesentery to prevent any form of bowel retraction.

She was transferred to the ICU in a stable condition. The exteriorized segment was monitored every six hours through a transparent stoma bag. Adequate hydration of the suture line was ensured. Enteral nutrition via the feeding jejunostomy tube was initiated. After eight days of observing

the anastomotic segment, she was taken to the theatre to reintroduce the anastomotic segment into the abdomen.

Outcome

Her surgery was successful, and nutrition and sepsis were under control. Unfortunately, she had developed a massive myocardial infarction as she was planned to be shifted to the ward. Despite maintaining the small bowel's continuity and normalizing the nutrition, we had lost the patient to other complications of prolonged hospitalization.

Discussion

Despite the unfortunate death of the patient, we had managed a proximal bowel perforation with a 3-stage surgery and exteriorization of the anastomotic segment. Similar procedures have been performed for an unprepared

colonic segment.[1] The various advantages of such a procedure would be avoiding intrabdominal leaks, close monitoring of the anastomotic segment, and early initiation of enteral feeding. If a leak were noted, it would be easy to identify and suture as a minor bedside procedure. The various complications are serositis secondary to a dry atmosphere and retraction of the exteriorized segment [2].

Learning Points/Take-Home Message

1. Exteriorization of the anastomotic bowel segment can be used in cases of proximal bowel perforation when the vascularity of the bowel is in contention.
2. A proximally introduced feeding jejunostomy crossing the anastomotic segment helps initiate early enteral feeding.

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