TECHNICAL PAPER PEER REVIEWED | OPEN ACCESS

Atraumatic Langenbeck retractor aided eversion of ileostomy

Sunita Saha, Deepak Singh-Ranger, Ramkumar Thangiah, Shanmugam Vivekanandan

INTRODUCTION

The ileostomy is conventionally formed in the right iliac fossa and may be an end or loop stoma depending on its function be it a definative point for effluent collection or diversion prior to a distal anastomoses or obstruction [1]. A major feature of ileostomy formation originally described by Professor Bryan Brooke in 1952 is the creation of the everted spout to minimize irritation and excoriation of the skin by bowel fluid [2]. Methods described for the formation of a spout include direct traction on sutures passing via the skin, serosa of ileostomy limb and cut edge [2], application of Babcock forceps to the cut edge and internal mucosa of the ileum to be everted [3, 4] and guy rope suture technique of applying temporary traction sutures to the mucosal surface of the ileum to be everted [5]. These procedures can be traumatic to the ileostomy mucosa and may compromise the condition of the stoma and result in significant bleeding or later stoma stenosis. We describe an alternative technique of spout formation whereby a Langenbeck retractor is used as a fulcrum to evert the ileum, thus reduce handling and trauma to the ileal mucosa.

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Received: 02 February 2016
Accepted: 09 April 2016
Published: 03 May 2016

MATERIALS AND METHOD

For a loop ileostomy formation enterotomy is made in the terminal ileum and the distal limb secured to the inferior aspect of the skin opening. Two full thickness sutures are inserted at the 10 o'clock and 2 o'clock positions (Figure 1) in the proximal limb bowel edge, the serosa 4 cm proximal to the cut edge and the skin edge as originally described by Brooke [2]. A Langenbeck retractor is placed upended at the 12 o'clock position acts as a fulcrum applied to the serosal surface to evert and spout the proximal limb by tightening and securing the sutures (Figure 2). The stoma is

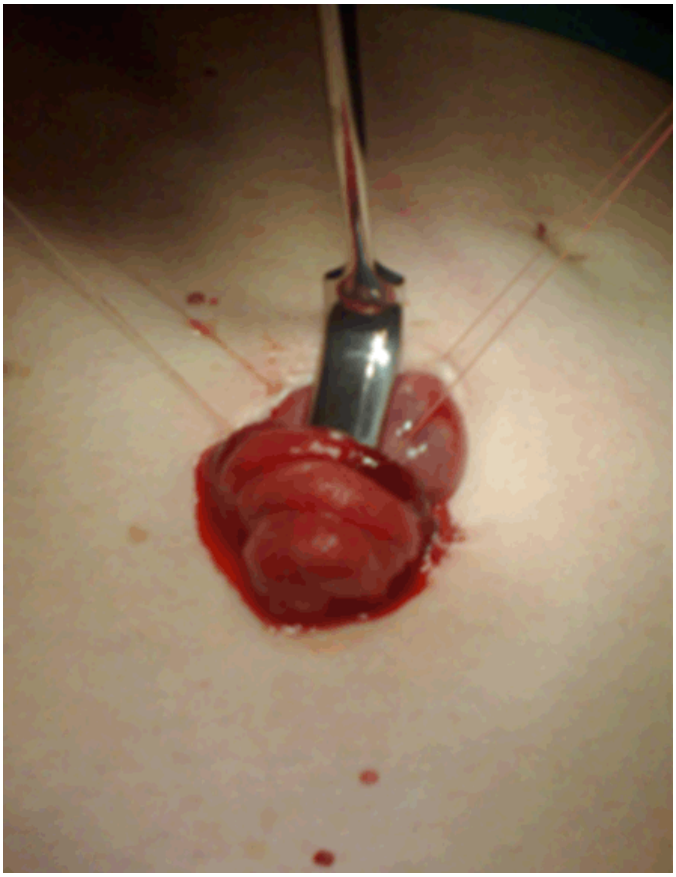

Figure 1: Efferent loop is secured inferiorly. Sutures inserted at 10 and 2 o'clock in proximal loop and upended Langenbeck retractor placed at 12 o'clock.

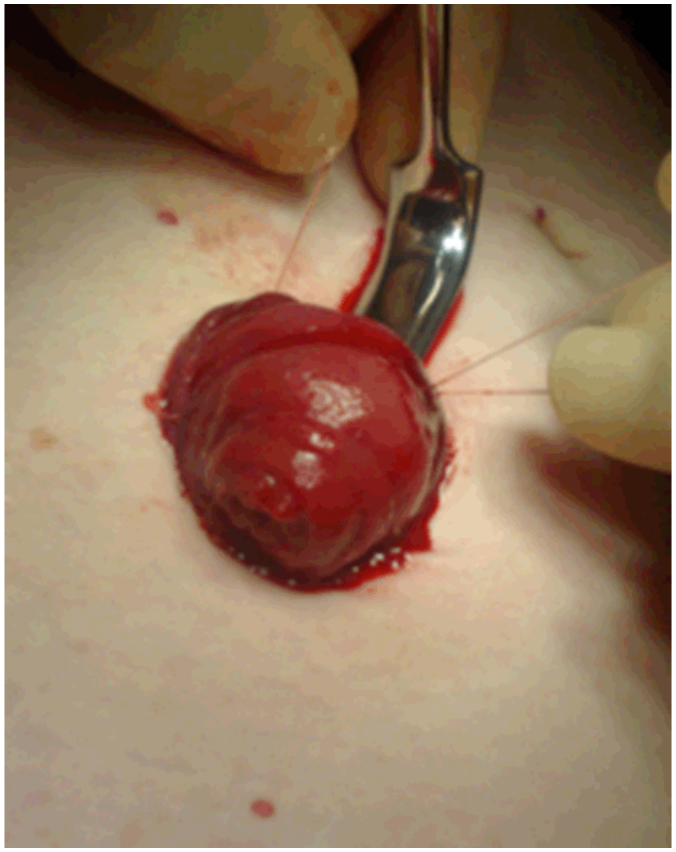

Figure 2: Proximal loop is everted over Langenbeck whilst drawing back on sutures to form spout.

then secured circumferentially in the traditional way to prevent retraction of this loop into the abdominal cavity. Although this technique has not been used in our experience for end ileostomy formation, we believe that the same methods may be applied.

RESULTS

To our knowledge a similar technique has only been described for urostomy formation [6]. We have extended it to the creation of a loop ileostomy with good result and minimal trauma and bleeding to ileal mucosa. The technique has been applied to 24 patients in our unit requiring loop ileostomy formation for fecal diversion. Follow-up at a median of six weeks has shown no spout stenosis, retraction or complications related to eversion.

DISCUSSION

This technique for everting the proximal loop during ileostomy formation minimizes trauma to ileal mucosa following loop or end ileostomy formation. It is particularly useful when the internal mucosa of the ileum is friable and when moderately oedematous bowel is encountered as it avoids trauma to the mucosa which may make the bowel more swollen due to hematoma.

Keywords: Ileostomy, Stoma formation technique, Atraumatic eversion

How to cite this article

Saha S, Singh-Ranger D, Thangiah R, Vivekanandan S. Atraumatic Langenbeck retractor aided eversion of ileostomy. Edorium J Surg 2016;3:6–8.

Article ID: 100012S05SS2016

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doi:10.5348/S05-2016-12-TP-2

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Author Contributions

Sunita Saha – Analysis and interpretation of data, Drafting article, Revising it critically for important intellectual content, Final approval of version to be published
Deepak Singh-Ranger – Acquisition of data, Revising it critically for important intellectual content, Final approval of version to be published
Ramkumar Thangiah – Acquisition of data, Drafting of article, Final approval of version to be published
Shanmugam Vivekanandan – Substantial contributions to conception and design, Revising it critically for important intellectual content, Final approval of version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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