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Case report

Local repair of stoma prolapse: Case report of an in vivo application of linear stapler devices

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HIGHLIGHTS

- Local repair of stoma prolapse avoids the consequences of a major laparotomy.
- Step-wise application of linear staplers effectively repairs prolapsed stomas.
- Patient outcomes are satisfactory after local repairs.

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ABSTRACT

Introduction: One of the most common late complications following stoma construction is prolapse. Although the majority of prolapse can be managed conservatively, surgical revision is required with incarceration/strangulation and in certain cases laparotomy and/or stoma reversal are not appropriate. This report will inform surgeons on safe and effective approaches to revising prolapsed stomas using local techniques.

Presentation of case: A 58 year old female with an obstructing rectal cancer previously received a diverting transverse loop colostomy. On completion of neoadjuvant treatment, re-staging found new lung metastases. She was scheduled for further chemotherapy but incarcerated a prolapsed segment of her loop colostomy. As there was no plan to resect her primary rectal tumor at the time, a local revision was preferred. Linear staplers were applied to the prolapsed stoma in step-wise fashion to locally revise the incarcerated prolapse. Post-operative recovery was satisfactory with no complications or recurrence of prolapse.

Discussion: We detail in step-wise fashion a technique using linear stapler devices that can be used to locally revise prolapsed stoma segments and therefore avoid a laparotomy. The procedure is technically easy to perform with satisfactory post-operative outcomes. We additionally review all previous reports of local repairs and show the evolution of local prolapse repair to the currently reported technique.

Conclusion: This report offers surgeons an alternative, efficient and effective option for addressing the complications of stoma prolapse. While future studies are needed to assess long-term outcomes, in the short-term, our report confirms the safety and effectiveness of this local technique.

1. Introduction

Stoma prolapse is one of the most common late complications after stoma construction with reported incidence of 2–26% [1]. Although prolapse is observed with any type of ostomy, loop ostomies have a higher incidence of prolapse [1]. In these cases, the prolapsed segment typically involves the distal limb of the loop ostomy [1–3]. Prolapsed segments are usually not life-threatening but may lead to alterations in cosmesis and difficulty in fitting stoma appliances. In cases of prolapse where manual reduction is difficult due to edema, local osmotic therapy using sugar can decrease the edema and facilitate reduction of the prolapsed segment [4]. When prolapse cannot be reduced, bowel incarceration and strangulation can occur. In these situations, exploratory laparotomy may be necessary with revision of the stoma, stoma reversal if appropriate, or complete relocation of the stoma [4].

For certain patients, laparotomy may be associated with significant morbidity and therefore additional surgical options are

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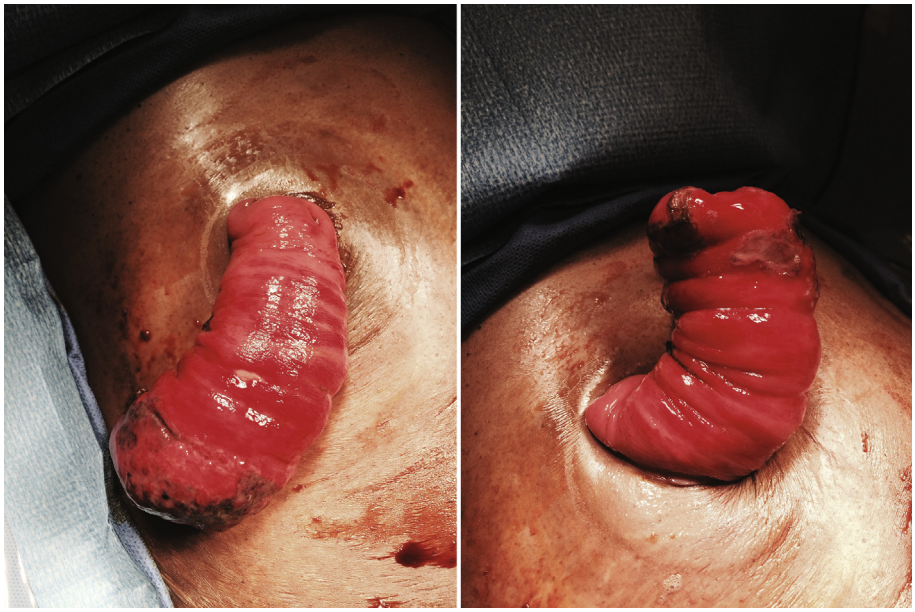

Fig. 1. Photograph of incarcerated stoma prolapse. Visualized is an incarcerated segment of the distal aspect of a loop transverse colostomy.

needed. In this report, we describe a technique for local revision of stoma prolapse using stapler devices that avoids the need for a laparotomy. While this technique has been partly described by other surgeons [5–10], previous reports are heterogeneous in detail and visual descriptions are quite limited. We therefore reviewed all reported cases of local prolapse revisions and comprehensively detail a summary technique in a step-by-step graphical manner.

2. Presentation of case

2.1. Patient presentation

A 58 year old African American female with rectal cancer was referred for further management. She had been initially diagnosed with a near-obstructing rectal mass at 10 cm from the anal verge and underwent a diverting transverse loop colostomy at an outside hospital. She was staged by endorectal ultrasound (ERUS) and magnetic resonance imaging (MRI) to be T3N1 and pathology from biopsies were consistent with adenocarcinoma. The patient underwent chemo-radiotherapy and was found on re-staging to have new multiple lung lesions suspicious for metastatic disease. This was subsequently confirmed on wedge biopsy. As she underwent evaluation for further chemotherapy, she presented with an acutely incarcerated, prolapsed distal segment of the transverse loop colostomy. Attempts at reduction were unsuccessful. Local revision of the prolapsed segment was planned as there was no intention to resect the lung lesions or primary rectal tumor at this time. Informed consent was obtained for local revision with possible

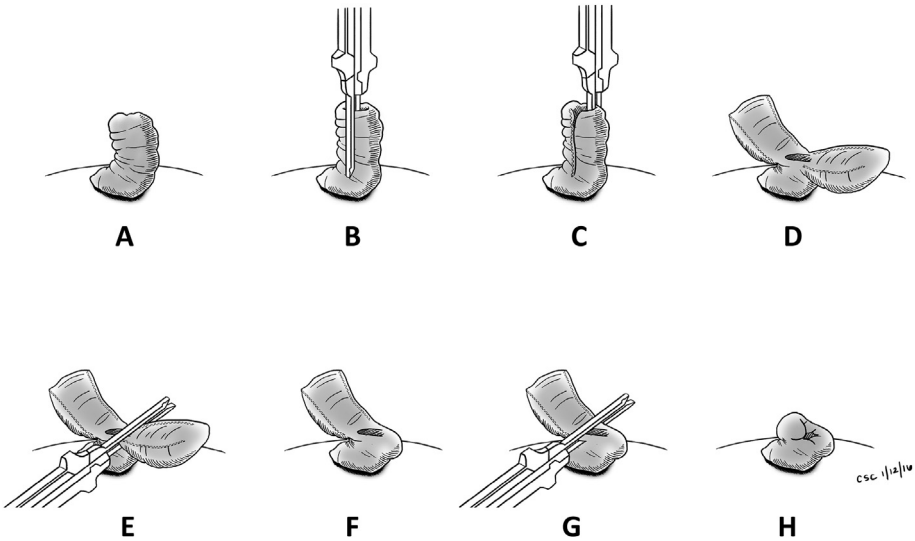

Fig. 2. Schematic illustrating the complete step-by-step local revision of stoma prolapse using linear stapling devices. A. Prolapsed segment. B. First application of linear stapler in the longitudinal plane. C. Second application of linear stapler on the opposite side but in the longitudinal plane. D. Bisection of the prolapsed segment. E. Third application of the linear stapler at a perpendicular angle to transect the base of one half. F. Appearance after transection of one half. G. Fourth application of the linear stapler to transect the remaining bisected half. H. Final appearance of revised stoma.