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Loop stomas with a subcutaneously placed bridge device

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Abstract
Aim To describe and evaluate a new technique for supporting a loop stoma with a simple removable subcutaneous bridge device.
Methods Fifty-five patients underwent a procedure resulting in a loop stoma. Thirty patients had a loop colostomy and twenty-five a loop ileostomy. In all cases, the stoma was supported with a removable subcutaneous redivac drain fixed to the skin.
Results There was no incidence of mechanical obstruction, stenosis, retraction, mucosal erosion or subcutaneous infection. Daily cleaning and care of the stoma was very simple, and the removal of the bridge device was carried out without opening the collecting bag.
Conclusion Our proposed technique is safe and feasible without considerable complications.

Keywords Loop stomas · Loop colostomy · Loop ileostomy

Introduction

Loop stomas, either loop colostomy or loop ileostomy, are usually constructed to relieve a distal obstruction or to prevent stool from flowing over a recently constructed distal anastomosis [1].

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In order to secure and prevent retraction of a loop stoma, most surgeons use an artificial "bridge", although supporting evidence is limited [2–6].

In this study, we describe an alternative technique for securing a loop stoma with a simple removable subcutaneous bridge device.

Patients and methods

Between 2002 and 2009, fifty-five patients underwent a procedure resulting in a loop stoma after obtaining a written informed consent. Forty-four surgical procedures were performed under general anesthesia and 11 under regional anesthesia. After the determination of the optimal site for stoma placement in the abdomen preoperatively, the main steps in formation of a loop stoma are carried out. Following the appropriate mobilization of the intestine and the preparation of the stoma opening in the abdominal wall, an opening is made in the mesentery of the mobilized intestinal loop. A redivac drain is passed through the mesentery and brought out subcutaneously to the skin surface, at a distance of 5 cm at least from the stoma opening. Both edges are fixed to the skin with 2/0 silk suture.

Results

From 2002 to 2009, we performed fifty-five loop stomas using the above-mentioned technique. Thirty-six (65.45%) loop stomas were created for malignancy and nineteen (34.55%) for benign disease. In the group of patients with malignant disease, twenty (55.55%) loop stomas were performed as a temporary procedure for obstructing rectal

lesions and sixteen (44.45%) as a permanent stoma for palliative reasons.

There was no postoperative morbidity related to the stoma formation or its subsequent function. All supporting bridge devices were removed between the 20th and 30th postoperative day. There was no incidence of mechanical obstruction, stenosis, retraction or bleeding. There was one peristomal hernia in a case of a loop colostomy performed for palliative decompression of an unresectable rectal carcinoma. In another case, a prolapse of a loop ileostomy was developed, which required a minimally invasive reconstruction with a linear stapler.

Discussion

The creation of an intestinal stoma for diversion of intestinal contents, especially a permanent one is not a trivial undertaking. In the literature, reported rates of stomal complications vary widely. Definitive conclusions about the overall incidence are difficult to draw because several of the reported studies are solely focused either on ileostomies or colostomies.

There are a lot of reports on the complications of construction and closure of loop stomas [6–10]. Complications directly related to the technique used to secure the stoma have been mentioned rarely. The use of a rod to support the loop is often responsible for peristomal sepsis, and in addition it usually causes discomfort to the patient, preventing the appropriate daily care of the stoma and the proper application of the ostomy bags. As a consequence, subcutaneous infection may occur because of fecal contamination of the subcutaneous tissues as the rod goes through the mesentery, intestinal fluid may leak to the abdominal wall with subsequent dermatitis, due to troublesome application of the ostomy bags and the quality of life of these patients becomes even more deteriorated.

Recently, an alternative technique has been described by Branco et al. using a plastic rod device placed not on the skin but on the superficial abdominal aponeurosis [8]. This technique has positive results regarding mucocutaneous leakage, subcutaneous infection and proper application of the ostomy bags. According to the authors however, this technique usually takes about 30 min to be performed. In addition, in order to remove this rod, an additional surgical procedure must be performed which is not desirable, especially if patients are going to have a permanent stoma.

Using our proposed alternative technique, there is no subcutaneous infection caused by fecal contamination, as the bridge device is located subcutaneously and it is never in contact with fecal material since it exits the skin out of the ostomy bag. Moreover, the subcutaneous location of the bridge device results in an appropriate and easy fitting of the ostomy appliances, preventing the leakage onto the abdominal wall. Another advantage of our technique is the feasibility of using smaller ostomy bags improving this way the patient's confidence, quality of life and early rehabilitation. Finally, the removal of the bridge is an easy procedure and does not cause any discomfort to the patient because the ostomy bag is not opened and the intestinal loop is not manipulated.

In conclusion, our proposed technique is safe and feasible without considerable complications.

Conflict of interest The authors declare that they have no conflict of interest related to the publication of this article.

References

1. Kaidar-Person O, Person B, Wexner D (2005) Complication of construction and closure of temporary loop ileostomy. J Am Coll Surg 201(5):759–773
2. Park JJ, Del Pino A, Orsay CP, Nelson RL, Pearl RK, Cintron JR, Abcarian H (1999) Stoma complications: the cook county hospital experience. Dis Colon Rectum 42(12):1575–1580
3. Shellito PC (1998) Complications of abdominal stoma surgery. Dis Colon Rectum 41(12):1562–1572
4. Tepetes K, Spyridakis M, Hatzitheofilou C (2005) Local treatment of a loop colostomy prolapse with linear stapler. Tech Coloproctol 9(2):156–158
5. Kann BR (2008) Early stomal complications. Clin Colon Rectal Surg 21(1):23–30
6. Branco AM, Saraiva AC (2009) Loop colostomy with suprafascial bridge devise. Dig Surg 26(4):282–284
7. Kanellos D, Pramateftakis MG, Kanellos I (2009) Standardization and time trends in laparoscopic colorectal surgery. Surg Endosc 25:2192–2194
8. Kanellos I, Vasiliadis K, Angelopoulos S, Tsachalis T, Pramateftakis MG, Mantzoros I, Betsis D (2004) Anastomotic leakage following anterior resection for rectal cancer. Tech Coloproctol 8:s79–s81
9. Kanellos D, Kitsios G, Kanellos I, Demetriades H, Pramateftakis MG, Angelopoulos S, Betsis D (2004) Anaemia as a symptom of right colon cancer. Tech Coloproctol 8:s62–s64
10. Kanellos I, Blouhos K, Demetriades H, Pramateftakis MG, Mantzoros I, Zacharakis E, Betsis D (2004) The failed intraperitoneal colon anastomosis after colon resection. Tech Coloproctol 8:s53–s55