

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.JournalofSurgicalResearch.com

Blowhole colostomy for the urgent management of distal large bowel obstruction

Kevin R. Kasten, MD, Emily F. Midura, MD, Bradley R. Davis, MD, Janice F. Rafferty, MD, and Ian M. Paquette, MD*

Division of Colon and Rectal Surgery, Department of Surgery, University of Cincinnati College of Medicine, Cincinnati, Ohio

ARTICLE INFO

Article history:

Received 19 November 2013

Received in revised form

23 December 2013

Accepted 6 January 2014

Available online 9 January 2014

Keywords:

Colostomy

Blowhole

Obstruction

Cancer

Stricture

ABSTRACT

Background: Complete obstruction of the distal colon or rectum often presents as a surgical emergency. This study evaluated the efficacy of blowhole colostomy versus transverse loop colostomy for the emergent management of distal large intestinal obstruction.

Methods: Retrospective chart review of all colostomy procedures (CPT 44320) performed for complete distal large bowel obstruction during the past 6 y in a university hospital practice was undertaken. Blowhole was compared with loop colostomy with a primary endpoint of successful colonic decompression.

Results: One hundred forty-one patients underwent colostomy creation during the study period. Of these, 61 were completed for acute obstruction of the distal colon or rectum (19 blowhole versus 42 loop colostomy). No differences between study groups were seen in age, gender, body mass index, malnutrition, American Society of Anesthesiology class, time to liquid or regular diet, 30-d or inhospital mortality, or rates of complications. Patients undergoing blowhole colostomy had significantly higher cecal diameters at diagnosis (9.14 versus 7.31 cm, $P = 0.0035$). Operative time was shorter in blowhole procedures (43 versus 51 min, $P = 0.017$). Postoperative length of stay was significantly shorter for blowhole colostomy (6 versus 8 d, $P = 0.014$). The primary endpoint of successful colonic decompression was met in all colostomy patients.

Conclusions: Diverting blowhole colostomy is a safe, quick, and effective procedure for the urgent management of distal colonic obstruction associated with obstipation and massive distention.

© 2014 Elsevier Inc. All rights reserved.

1. Introduction

Complete obstruction of the distal colon or rectum is a surgical emergency, with 60%–70% of all emergent cases caused by rectosigmoid, rectal, or anal malignancy [1–3]. The remaining 30% of large bowel obstructions (LBO) are attributable to diverticular disease, volvulus, inflammatory bowel disease, pelvic malignancies, and pseudo-obstruction. The emergent

management of LBO has advanced significantly during the past 40 y. Traditional surgical options include colectomy with primary anastomosis, subtotal colectomy with ileorectal anastomosis, or Hartmann procedure. However, these procedures may prove technical difficulty in emergent situations when patients are too ill to tolerate, resulting in worsened outcomes [4,5]. Transverse loop colostomy achieves colonic decompression while simultaneously serving as a bridge to

* Corresponding author. Division of Colon and Rectal Surgery, University of Cincinnati College of Medicine, 2123 Auburn Avenue, Suite 524, Cincinnati, OH 45219. Tel.: +1 513 929 0104; fax +1 513 929 4369.

E-mail address: paquetin@ucmail.uc.edu (I.M. Paquette).

0022-4804/\$ – see front matter © 2014 Elsevier Inc. All rights reserved.

<http://dx.doi.org/10.1016/j.jss.2014.01.007>

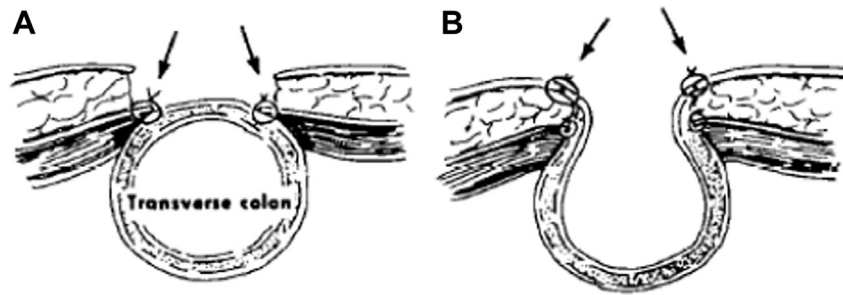


Fig. 1 – Schematic view of decompressive blowhole colostomy. Adapted from Turnbull et al. “Surgical Treatment of Toxic Megacolon. Ileostomy and Colostomy to Prepare Patients for Colectomy.” American Journal of Surgery, 1971; 122: 325–331. With permission from Elsevier Science.

definitive management. Unfortunately, severe colonic distention can increase the difficulty of maturing a loop or end colostomy, at times being precluded by massive distention. More recently, endoscopic colonic stenting has challenged the need for emergent surgical intervention before definitive resection [6]. Unfortunately, not all centers are capable of colonic stenting, some lesions are not amenable to stenting, and significant risks include stent migration and colon perforation. Regardless of underlying etiology, emergent management of LBO is often associated with high morbidity and mortality [7].

Blowhole colostomy, first formally described by Turnbull [8,9], represents a minimally invasive form of colonic decompression once used for the emergent management of toxic megacolon. Transmural fixation of the anterior colonic wall to the rectus sheath, followed by maturation of colon wall to the dermis, is performed with minimal anesthesia and operative time (Fig. 1). We hypothesized that blowhole colostomy is noninferior to loop colostomy with a primary endpoint of successful colonic decompression in patients requiring emergent or urgent operative intervention.

2. Materials and methods

2.1. Patient chart review and data collection

A retrospective chart review of all patients undergoing colostomy creation (CPT 44320) from March 2007 through March 2013 in our academic surgical practice was completed. Patients undergoing blowhole or loop colostomy for the decompression of complete distal LBO were identified for inclusion. Complete distal LBO was diagnosed by history of obstipation, massive abdominal distention on clinical examination, and severe colonic distention due to distal obstruction noted on appropriate imaging studies. Excluded from analysis were patients with nonobstructing colorectal masses and patients undergoing colostomy creation for diversion after trauma. The indication for each procedure was recorded. The primary endpoint was successful colonic decompression defined as resolution of obstructive symptoms before discharge without further surgical or endoscopic intervention. Secondary endpoints included operative time, time to liquid diet, time to regular diet, postoperative length

of stay, postoperative morbidity, successful bridge to definitive therapy, 30-d mortality, and in-hospital mortality. Operative time was defined as minutes from the first incision to the completion of last suture. This study was approved by our institution's Internal Review Board.

2.2. Blowhole and loop colostomy surgical technique

Our blowhole colostomy surgical technique was as previously described [8,9], (Fig. 1). Briefly, the patient was taken to the operating room and anesthesia achieved by general ($n = 17$) or local means ($n = 2$) after discussion between the attending surgeon and anesthesiologist. After review of imaging studies, the abdomen was marked in the midline over the transverse colon. A 3-cm incision was carried down to the fascia. On entry into the abdomen, the transverse colon was identified and secured to the posterior fascia with fixation sutures to create a seal, thus preventing spillage of enteric contents into the abdomen. A transverse colotomy was created sharply, and the colon was decompressed with suction. The blowhole colostomy was then matured to the deep dermis with interrupted sutures. A colostomy appliance was secured, and the patient was transported to the recovery room.

Our loop colostomy surgical technique involved general anesthesia for all patients ($n = 42$). After review of imaging studies, an upper abdominal incision was carried down to the fascia at the location of maximal transverse colon dilation. On entry into the abdomen, the transverse colon was identified and elevated into the wound. An ostomy rod was placed through the mesentery in a standard fashion before maturation of the colostomy. Maturation of the colostomy was by standard means. A colostomy appliance was secured, and the patient was transported to the recovery room.

2.3. Statistical analyses

Stata version 12.1 (Stata, College Station, TX) was used for statistical analysis. Categorical variables were compared using χ^2 or Fisher exact test when appropriate. Median values of continuous variables were compared with the Wilcoxon rank-sum test. All P values were two-tailed. A value of $P \leq 0.05$ was considered statistically significant.

Download English Version:

<https://daneshyari.com/en/article/4300222>

Download Persian Version:

<https://daneshyari.com/article/4300222>

[Daneshyari.com](https://daneshyari.com)