

Technical Notes

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A Simple Method for Preventing Retraction of an End Colostomy

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A simple technique for performing a functional end sigmoid colostomy is reported. This procedure can help to prevent retraction of an end stoma in an obese patient or any patient with a shortened mesentery. [Key words: Colostomy, end sigmoid, retraction; Ostomy, complications; Surgical technique]

PERFORMING AN END SIGMOID OR descending colostomy in an obese patient with a shortened mesentery can be difficult. Usually the end of the colon is brought out through a site selected preoperatively, and matured after closure of the abdominal incision. Because of the nature of the shortened mesentery pulling on the end of the bowel, the surgeon, at times, is left looking at a necrotic or retracted stoma (Fig. 1).

The incidence of stoma retraction is reported to be 1 to 13 percent.¹ Necrosis can occur just below the skin level and is not a serious problem in terms of the patient's immediate well-being, but such a retracted stoma will lead to a poor-fitting colostomy appliance or stricture formation. Revision at a later date will be even more difficult. Occasionally a retracted stoma may be necrotic below the level of the fascia leading to the possibility of sepsis and death. A simple technique has been developed in an attempt to avoid the possibility of retraction.

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Technique

The site for division or resection of the colon is identified and resection or division is completed using the GIA™ stapler or similar device to divide the bowel and prevent spillage of any intestinal contents. The colostomy site is then prepared, and the bowel is brought through the site remote from the incision after mobilizing as much of the colon and mesentery as possible. Adequate mobilization cannot be overemphasized. The abdominal incision is then closed and the colostomy is matured. Rather than trying to bring the end of the bowel out through the abdominal wall, a functional end colostomy is performed by maturing the antimesenteric side of the bowel just proximal to the staple line, as shown in Fig. 2. Often it is not necessary to bury all of the staple line in the subcutaneous space, and part of the staple line can be opened and matured as part of the stoma. This technique alleviates traction on the mesentery and protects the blood supply to the fragile end of the colon since the surgeon does not have to stretch the distal most end of the mesentery (as one would need to do in an obese patient) trying to bring the end of the bowel out to the skin.

Discussion

This procedure has been performed on seven patients thus far, five women and two men. Two women had

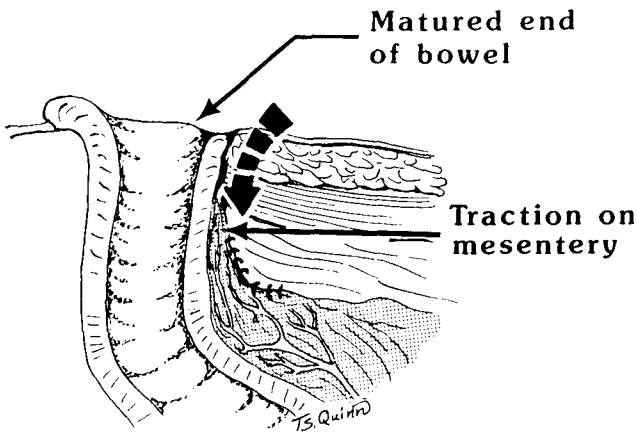


FIG. 1. Conventional stoma with chordee effect of mesentery. Traction on the terminal mesentery, particularly in an obese patient, can lead to retraction or necrosis of the stoma.

carcinoma of the rectum, one of whom had an abdominoperineal resection, and the other underwent a diverting end sigmoid colostomy and mucous fistula for an unresectable pelvic recurrence. Three other women underwent resection with an end colostomy and mucous fistula for diverticulitis. The two men underwent abdominoperineal resections for low rectal cancers. There were no complications and neither have had problems with poor-fitting stoma appliances, now followed from 3 to 15 months postoperatively. In all cases it was believed that, at the time of surgery, overstretching of the mesentery and

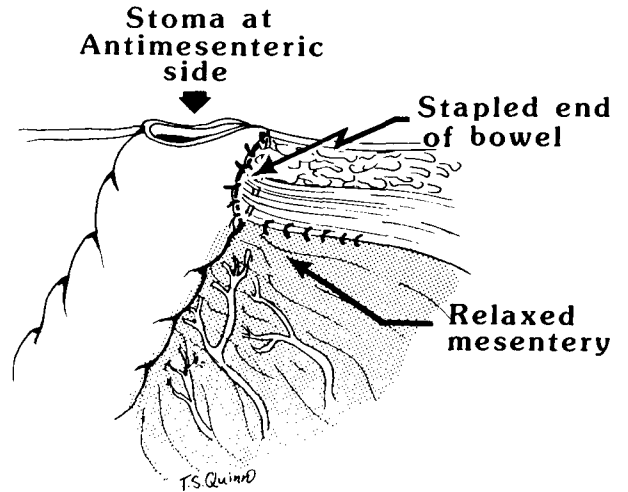


FIG. 2. A functional end colostomy. The end of the bowel is stapled closed. Rather than attempting to overcome the chordee effect of the mesentery, the antimesenteric side of the bowel proximal to the end is matured to the skin, allowing for a more relaxed mesentery with preservation of the most distal blood supply. This technique will *not* compensate for inadequate mobilization.

the potential for retraction would have been great if an attempt at maturing the end of the bowel was performed.

Reference

1. Pearl RK, Prasad ML, Orsay CP, et al. Early local complications from intestinal stomas. *Arch Surg* 1985;120:1145-7.