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CASE REPORT

Trephine colostomy: a warning

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A case of trephine colostomy is presented in which air insufflation incorrectly identified the distal limb. Disaster was averted by correct identification at laparotomy. The probable cause of the error and methods of avoidance are discussed.

The technique of trephine colostomy enables a permanent end colostomy to be performed without the need for laparotomy *(1)*. Purported benefits of the technique are reduced postoperative pain, early mobilisation and a low complication rate.

Fundamental to the technique is the correct identification of the proximal (functional) limb. Intraoperative insufflation of the rectum is the most common method used to ensure correct orientation. We report a case where this method was misleading and disaster averted by prudent conversion to laparotomy.

Case history

A 58-year-old woman with solitary rectal ulcer syndrome and faecal incontinence was admitted for colostomy. A rectopexy performed 18 months previously had not been followed by any improvement in symptoms. The patient was anaesthetised and placed in the Lloyd-Davies position. At a site selected preoperatively, a 2.5 cm diameter disk of skin was excised and the anterior rectus sheath incised in a cruciate manner. The fibres of the rectus abdominis were split in the usual manner and the posterior sheath and peritoneum incised.

A length of sigmoid colon was located and identified by the presence of appendices epiploicae and the absence of omentum. This loop was brought through the trephine and occluded digitally while the rectum was insufflated with air by an assistant using a sigmoidoscope. After a considerable volume of air had been introduced, one limb slowly distended. Concerned that the direction of the mesentery had implied the opposite orientation, we elected to perform a midline laparotomy.

At laparotomy, both the sigmoid and the transverse colon were markedly redundant. Air insufflation had incorrectly identified the orientation of the sigmoid colon. Furthermore, the proposed point of division of the sigmoid was further proximal than anticipated. A more appropriate position was selected and the sigmoid colon divided. The distal end was oversewn and the proximal end brought through the trephine. An uneventful postoperative course ensued.

Discussion

This case illustrates the lack of reliability of the rectal insufflation method of testing correct orientation of the sigmoid colon and calls into question the safety of the trephine colostomy technique.

We speculate that, in this case, the spurious result was caused by compression of the redundant, air-filled transverse colon as intra-abdominal pressure increased during insufflation of the generous sigmoid colon. Fortunately, we were not satisfied with the result of the test in this case and proceeded to laparotomy.

The gravity of the error of incorrect identification is such that it cannot be considered acceptable to rely on one means of orientation alone. We propose that laparoscopy, flexible sigmoidoscopy or a short midline laparotomy incision be performed in all cases, in addition to air insufflation to ensure absolute identification of colonic orientation.

Reference

1 Senapati A, Phillips RKS. The trephine colostomy: a permanent left iliac fossa end colostomy without recourse to laparotomy. *Ann R Coll Surg Engl* 1991; 73: 305–6.

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