

Early Postoperative Small Bowel Obstruction: Can We Blame the Drain?

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Figure 1 - Coronal & axial images of the CT scan, demonstrating small bowel obstruction with transition point in the course of one of the pelvic drains (red arrows)

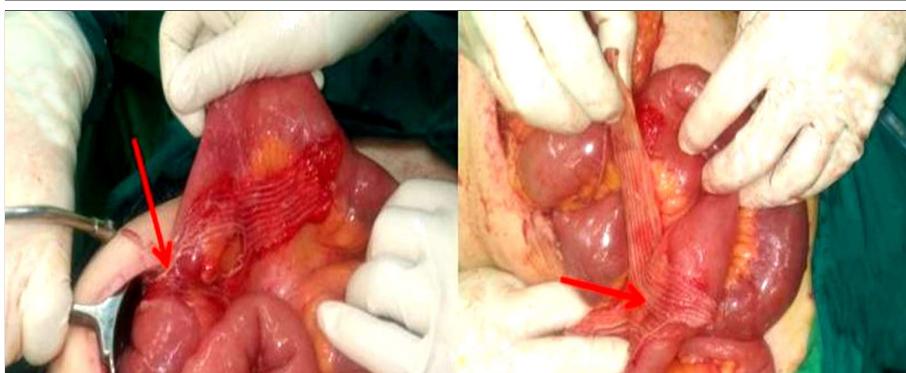


Figure 2 - Intraoperative images demonstrating change of the small bowel caliber at the level of the firm imprint of the pelvic drain (red arrows)

ABSTRACT

Abdominal drains are frequently used in both elective and emergency laparotomies, in order to prevent formation of postoperative collections in gravity-dependent positions or as means of early detection of postoperative hemorrhage and anastomotic leaks. Despite the benefits of their use, rare drain-related complications have been reported in the literature, including adhesional

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band formation and intestinal erosion. Herein, we present an extremely rare case of early, non-resolving postoperative small bowel obstruction after abdominoperineal resection for low rectal cancer, which was induced from firm extrinsic compression of the distal ileum by a corrugated pelvic drain.

Key words: drain, corrugated, obstruction, laparotomy, compression

CASE REPORT

A 78-year old Caucasian male patient with a medical history comprised of hypertension, peripheral artery disease and hyperlipidemia, was admitted for elective performance of abdominoperineal resection of the rectum due to the presence of a low rectal adenocarcinoma. Intra-operatively and before the laparotomy closure, two rubber multi-lumen corrugated drains were placed in the pelvis through a right iliac fossa 1 cm incision, in order to prevent the formation of post-operative pelvic collection. In the postoperative course, the patient developed significant abdominal distension, with persistent daily drainage of 1000-1500 mls of bilious effluent through the nasogastric tube and inactivity of his end colostomy. Of note, the pelvic drains' effluent was initially hemoserous and subsequently serous with variable daily volumes between 20-50 mls.

A series of trials of administration of gastrografin through the nasogastric tube failed to resolve the patient's ileus and hence a computed tomography (CT) scan of the abdomen and pelvis was performed on the fifth postoperative day, demonstrating a transition point in the distal ileum without presence of free fluid or signs of internal small bowel herniation. The above-mentioned transition point was in anatomical proximity with the course of one of the pelvic drains (*fig. 1*). A further trial of administration of gastrografin was attempted, but as it was not tolerated by the patient, a decision was taken to proceed with exploratory laparotomy. During the re-operation, the described transition point in the distal ileum was identified, with presence of a firm imprint of one of the pelvic drains, which had compressed the obstructed segment against the pelvic sidewall (*fig. 2*). Fortunately, the small bowel had not been eroded and no resection was required. After lavage, a Penrose pelvic drain was inserted and the abdominal wall was closed en masse with placement of retention sutures.

Although scarcely reported in the literature by non-suction abdominal drains, early postoperative small bowel obstruction as a result of extrinsic compression from an abdominal drain can occur, indicating the need for early removal of the abdominal drains once their

purpose has been served. High clinical suspicion of drain-related early postoperative small bowel obstruction is required when interpreting abdominal imaging findings, which demonstrate the presence of a small bowel transition point in anatomical proximity to surgical drains.

Conflict of interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Ethics statement

Informed consent was obtained from the patient and is available upon request by the editorial office; no ethical committee approval was required for the publication of this case report.

Author contributions

NB, NR and LT: contributed to the clinical data collection and prepared the case report; CS, MT and GZ: contributed to the design of the case report presentation and performed the final revision of the manuscript.

Data availability statement

The authors declare that the supporting data for this case presentation are presented within the manuscript.

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