

Controlled intraoperative water testing of left-sided colorectal anastomoses: are ileostomies avoidable?

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Anastomotic leakage is a major problem in colorectal surgery, and previous studies have suggested that intraoperative identification of leaks allows repair at the time of surgery. This study examined whether testing allowed a defunctioning ileostomy to be safely omitted.

A series of 102 consecutive patients underwent left-sided colorectal resection, 52 males and 50 females, mean age 65.7 years (range 16–89 years). After completion of the anastomosis, its integrity was tested by running saline into the rectum, using a manometer, to a maximum distending pressure of 30 cmH₂O. Any leaks were repaired and the anastomosis retested. A defunctioning ileostomy was only performed if the anastomosis could not be shown to be leak-proof on testing. Patients underwent a contrast enema on the 8th postoperative day.

Twenty-one (20.6%) patients failed the initial leakage test and 3 (3%) patients failed a second test. Two of these 21 patients went on to have a clinical leak, both of which were treated conservatively. Two defunctioning ileostomies were performed at the time of surgery. Sixteen (16.2%) had a leak on radiological testing, and there was clinical evidence of a leak in 5 (4.9%) patients. There were 3 (2.9%) deaths, but none of these had a leak on radiological testing.

Incomplete anastomoses were successfully corrected intraoperatively. A defunctioning ileostomy was avoided in 98% of cases. Intraoperative testing to a pressure of 30 cmH₂O is helpful in anterior resection, but does not guarantee that an intact anastomosis will remain intact postoperatively.

Anastomotic leakage is a major cause of morbidity and mortality in colorectal surgery. Leak rates are higher after anterior resection than after colonic resection (1). The leak rate will vary depending on how it is sought, with radiological leakage rates being higher than clinical leakage rates (2,3). Surgical technique appears to be the major cause of anastomotic leak, and two previous studies have shown that intraoperative testing of anastomoses may allow repair of any defects at the time of surgery with assumed lower leakage rates (1,4). Some authors consider it prudent to defunction low anterior resections (5), while others have previously questioned whether this should still be performed routinely (6). Supporters of defunctioning argue that it is difficult to predict which anastomoses will leak. However, as only a small proportion of anastomoses will leak, it would be advantageous to identify those that are likely to do so at the time of surgery, so that selective defunctioning may be achieved. This study examined whether controlled intraoperative water testing of left-sided colorectal anastomoses could determine in which patients a defunctioning ileostomy could be safely omitted.

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