Original article

# One-year results of the SCANDIV randomized clinical trial of laparoscopic lavage *versus* primary resection for acute perforated diverticulitis

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**Background:** Recent randomized trials demonstrated that laparoscopic lavage compared with resection for Hinchey III perforated diverticulitis was associated with similar mortality, less stoma formation but a higher rate of early reintervention. The aim of this study was to compare 1-year outcomes in patients who participated in the randomized Scandinavian Diverticulitis (SCANDIV) trial.

**Methods:** Between February 2010 and June 2014, patients from 21 hospitals in Norway and Sweden presenting with suspected perforated diverticulitis were enrolled in a multicentre RCT comparing laparoscopic lavage and sigmoid resection. All patients with perforated diverticulitis confirmed during surgery were included in a modified intention-to-treat analysis of 1-year results.

**Results:** Of 199 enrolled patients, 101 were assigned randomly to laparoscopic lavage and 98 to colonic resection. Perforated diverticulitis was confirmed at the time of surgery in 89 and 83 patients respectively. Within 1 year after surgery, neither severe complications (34 *versus* 27 per cent; $P = 0{\cdot}323$) nor disease-related mortality (12 *versus* 11 per cent) differed significantly between the lavage and surgery groups. Among the 144 patients with purulent peritonitis, the rate of severe complications (27 per cent (20 of 74) *versus* 21 per cent (15 of 70) respectively; $P = 0{\cdot}445$) and disease-related mortality (8 *versus* 9 per cent) were similar. Laparoscopic lavage was associated with more deep surgical-site infections (32 *versus* 13 per cent; $P = 0{\cdot}006$) but fewer superficial surgical-site infections (1 *versus* 17 per cent; $P = 0{\cdot}001$). More patients in the lavage group underwent unplanned reoperations (27 *versus* 10 per cent; $P = 0{\cdot}010$). Including stoma reversals, a similar proportion of patients required a secondary operation (28 *versus* 29 per cent). The stoma rate at 1 year was lower in the lavage group (14 *versus* 42 per cent in the resection group; $P < 0{\cdot}001$); however, the Cleveland Global Quality of Life score did not differ between groups.

**Conclusion:** The advantages of laparoscopic lavage should be weighed against the risk of secondary intervention (if sepsis is unresolved). Assessment to exclude malignancy (although uncommon) is advised. Registration number: NCT01047462 (http://www.clinicaltrials.gov).

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