

Systematic review and meta-analysis comparing primary resection and anastomosis versus Hartmann's procedure for the management of acute perforated diverticulitis with generalised peritonitis

CITATION

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- Colonic diverticula are a common gastrointestinal pathology in Western and industrialised societies. They occur in up to 70% of the population over 80 years of age and are associated with a spectrum of clinical issues ranging from uncomplicated diverticulosis to complex diverticular disease with abscess, peritonitis, stricture/ obstruction, fistula or haemorrhage. The prevalence of diverticulitis was historically reported as > 20%. More recent data suggest that only 4% of patients with diverticulosis will develop acute complicated diverticulitis. Acute diverticulitis with colonic perforation is associated with high morbidity and mortality
- Methods- A Systematic literature research was conducted to identify observational studies and randomized control trials(RCTs) of patients with Hinchey III/IV diverticulitis undergoing sigmoidectomy that compared PRA to HP. The methodological quality of the included studies was assessed systematically (Newcastle–Ottawa, Jadad and Cochrane risk of bias scores) and a meta-analysis was performed.

RESULTS

- After removal of duplicates, 12 studies including 4 RCTs were identified. The analysis included 918 patients, of whom 367 (39.98%) underwent PRA. Both the initial stoma rate (risk ratio [RR] persistent stoma 0.43, 95% confidence interval [CI] 0.26, 0.71, $p = 0.001$; $I^2 = 99\%$, $p < 0.0001$) and the rate of permanent stoma after combining the first (emergency surgery) and second (stoma reversal) procedures were lower in the PRA group.
- There was no difference in 30-day mortality; however, PRA resulted in a reduction in overall mortality as well as major complications after the initial operation (RR 0.67, 95% CI 0.46, 0.97, $p = 0.03$; $I^2 = 22\%$, $p = 0.26$), stoma reversal (RR 0.48, 95% CI 0.26, 0.92, $p = 0.03$; $I^2 = 0\%$, $p = 0.58$) and when combining both procedures (RR 0.67, 95% CI 0.51, 0.88, $p = 0.005$; $I^2 = 0\%$, heterogeneity $p = 0.58$).
- A subgroup analysis of stoma reversal rates using data from only RCTs were consistent (RR permanent stoma, 0.33, 95% CI 0.13, 0.85, $p = 0.02$; $I^2 = 77\%$, $p = 0.004$) with the findings of the overall analysis.

CLINICAL BOTTOM LINE

- The results of the present meta-analysis demonstrate that PRA leads to a significantly reduced incidence of initial stoma formation, as well as permanent stoma rate, and consequently stoma complications when compared to HP.
- There was also a reduced incidence of abdominal sepsis, major morbidity, and overall mortality rates compared with the standard management. Subgroup analyses using data from only RCTs of stoma reversal rates, major morbidity for stoma reversal, stoma complications and abdominal sepsis remained consistent with the findings of the overall analysis, and PRA was also associated with a shorter overall ICU stay and inpatient LOS (all level 1a evidence).
- Eliminating the source of contamination and controlling sepsis are the immediate management steps in acute perforated diverticulitis. compliance is multifactorial