

Purpose: The open abdomen (OA) is an important approach for managing intra-abdominal catastrophes and continues to be the standard of care. Despite this, challenges remain and the technique is still associated with a high incidence of complications and poor outcomes. A systematic review was performed to identify prognostic factors associated with OA management in relation to definitive fascial closure (DFC), mortality and intra-abdominal complications.

Methodology: An electronic database search was conducted involving Medline, Excerpta Medica, Central Register of Controlled Trials, Cumulative Index to Nursing and Allied Health Literature and Clinicaltrials.gov databases.

Results: There were 31 studies included in the final synthesis. Prognostic factors associated with delaying DFC included the presence of deep surgical site infection, fascial necrosis or an intestinal fistula. Failed clearance of the abdomen, failure of fascial closure, unconsciousness and acute renal failure were associated with in-hospital mortality. Failed DFC, large bowel resection and administration of > 5-10 litres or > 10 litres of intravenous fluids in < 48 hours were associated with the development of entero-atmospheric fistula and/or intra-abdominal abscess. The source of infection (small bowel in relation to colon) was associated with the development of a ventral hernia. Fascial closure on or after day 5 or the presence of a bowel anastomosis were associated with the development of an anastomotic leak.

Conclusion: The OA has earned a huge amount of popularity in recent decades. Careful selection and management of patients with an OA will aid in avoiding prolonged treatment and facilitate early DFC, decrease mortality and reduce intra-abdominal complications.