

Anaesthesia and Anastomotic leak - Santosh Patel

Anastomotic leak (AL) is a serious and devastating complication following colorectal surgery. There are multiple definitions. Incidence varies from 2%-20% depending on site of anastomosis and multiple perioperative factors. Serious consequences include abdominal and systemic sepsis, need for reoperation, and increased risk of local recurrence, prolonged hospital stay and mortality.

Risk factors for AL are multiple. These risk factors can be divided into modifiable and non-modifiable. They can be present during pre, intra or postoperative period. Male sex, ASA >3, pulmonary and vascular disease, distant metastasis, advanced tumour stage and emergency surgery are non-modifiable risk factors. Nutritional status (hypoalbuminemia and anaemia), smoking, alcohol intake and obesity are modifiable risk factors.

Epidural opioid analgesia has not been found to increase risk. Epidural local anaesthetic alone or with opioid can affect intestinal blood flow. Use of norepinephrine has been found to increase risk for AL. Dose and duration of use of vasopressors may be determinant factors. There are controversial findings with type of fluid therapy and risk of AL. Goal directed therapy has been found to decrease risk. However, findings are not consistent in various studies.

Intraoperative haemodynamic management and Fio₂ have also been found to influence rate of AL. Prolonged hypotension (decrease in systolic BP > 20%) may increase risk. Higher Fio₂ (>0.8) decreases risk of AL. Postoperative use of non-selective NSAIDs has been shown to increase risk in several studies. Consequently, use of Diclofenac should be avoided. There are theoretical concerns of AL with use of neostigmine and N₂O. However, both these drugs have not been investigated in humans.

Recently, there has been interest in intraoperative assessment of anastomotic site oxygenation and perfusion. Anastomotic site Po₂ less than 30 mm of Hg predicts AL. Anastomotic site oxygen saturation and flow can be assessed by different methods – Scanning laser Doppler flowmetry, NIRS, VLS, Fluorescence videography, Intramucosal P_H.