

Anaemia is Associated with Increased Postoperative Morbidity and Decreased Overall Survival in Patients with Colorectal Cancer

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ABSTRACT

Anaemia is a common comorbidity in colorectal cancer (CRC), often resulting from tumour-related blood loss, nutritional deficiencies, and chronic inflammation. Anaemia is associated with reduced survival and a higher incidence of perioperative complications, yet its independent prognostic significance remains uncertain. This study aimed to evaluate the impact of anaemia on short- and long-term outcomes in patients undergoing surgery for CRC. This retrospective cohort study included 311 patients who underwent surgery for CRC. Baseline demographic, clinical, and surgical characteristics were recorded. Anaemia was defined by preoperative haemoglobin levels. Surgical outcomes included postoperative complications, 30-day mortality, and recurrence. Survival outcomes were analysed using Kaplan–Meier estimates. Cox proportional hazards regression identified independent predictors of recurrence and poor outcomes (recurrence or mortality). Statistical significance was determined at $p > 0.05$. Anaemia was present in 51.4% of 311 patients (mean age 58 years) with CRC, with 22.5% requiring emergency surgery and 16.4% receiving perioperative transfusion. Mortality within 30 days occurred in 11 cases (3.5%); anastomotic leak was observed in 13.0% of 247 patients with anastomosis. The overall rate of postoperative complications was 27.0%. Patients with anaemia had significantly higher rates of postoperative complications (33.8% vs 19.9%, $p = 0.006$) and troponaemia (17.5% vs 9.3%, $p = 0.034$). Anaemia reduced overall survival ($p = 0.021$) but did not impact recurrence ($p = 0.368$) or recurrence-free survival ($p = 0.123$). Preoperative anaemia is common among patients with CRC and was associated with increased short-term postoperative complications and reduced overall survival in univariate analysis. While anaemia was not an independent predictor of recurrence or long-term mortality in multivariate analysis, early identification and intervention may improve perioperative outcomes.

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