



IMPACT OF PERIOPERATIVE BLOOD TRANSFUSION ON ONCOLOGICAL OUTCOMES FOLLOWING RADICAL CYSTECTOMY FOR BLADDER CANCER: A SYSTEMATIC REVIEW



João Pedro de Sá Pereira-8º módulo de Medicina, UFLA, bolsista PIBIC/CNPq. José Cherem - Pesquisador do NUPEB/UFLA - Departamento de Medicina - UFLA. Joziana Muniz de Paiva Barçante - Pesquisadora do NUPEB/UFLA - Professora do Departamento de Medicina - UFLA. Francisco Júnior Pereira Leite, Médico - UFPB. Francisco de Paula Neto, Médico - Hospital de Guaranição de João Pessoa/PB. Thiago Lins da Costa Almeida, Médico Oncologista, Grupo Oncoclínicas.

INTRODUCTION

Bladder cancer ranks amongst one of the most commonly diagnosed cancers worldwide. Considering the current treatment strategies, about a third of the patients require to undergo radical cystectomy, a complex procedure that is associated with significant blood loss. Perioperative blood transfusion is reported in about 30 to 65% of patients, but the data available on its impact on oncological outcomes remains inconsistent.

METHODS

A systematic search was conducted in PubMed, Embase, and Cochrane Library databases using relevant MeSH terms and keywords, including "bladder cancer," "radical cystectomy," "blood transfusion," and "outcomes." Clinical trials published between January 2010 and December 2023 were included. Studies reporting on the association between perioperative blood transfusion and outcomes following RC for bladder cancer were eligible for inclusion. Statistical analysis was performed to calculate pooled odds ratios for postoperative complications and hazard ratios for overall survival using a random-effects model. The data was calculated and pooled using the software STATA version 12.0 and R software version 3.6.0

RESULTS

The initial search yielded 1238 articles, of which 16 studies met the inclusion criteria and were included in the final analysis. Pooled analysis demonstrated that perioperative blood transfusion was significantly associated with an increased risk of postoperative complications (OR: 1.66, 95% CI: 1.28–2.04) for bladder cancer. Additionally, perioperative blood transfusion was associated with worse overall survival outcomes (HR: 1.38, 95% CI: 1.12–1.70) and higher risk of cancer recurrence (HR 1.24 CI:95% 1.12-1.34) compared to patients who did not receive transfusion.

CONCLUSION

Perioperative blood transfusion during radical cystectomy for bladder cancer is associated with an increased risk of postoperative complications and worse overall oncological outcomes. These findings highlight the importance of cautious use of blood transfusion and consideration of alternative strategies to minimize perioperative bleeding. Strategies to optimize perioperative care and minimize blood transfusion rates may improve outcomes in patients undergoing radical cystectomy for bladder cancer,