

Do Anticoagulants Have an Impact on the Clinical Outcomes of Ventral Hernia Repair? A Systematic Review and Meta-Analysis

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Introduction

This study aims to perform a comprehensive systematic review and meta-analysis to evaluate the impact of anticoagulation therapy on clinical outcomes following ventral hernia repair (VHR).

Material & Methods

A thorough online search was conducted using PubMed, Cochrane, and Embase. Studies comparing the use of anticoagulation therapy following VHR were included. The results analyzed were blood-related reoperation, hemorrhagic/thrombotic complications, length of stay, and transfusion rates. Statistical analysis was performed with Review Manager 5.4 using a random-effects model.

Results

From 1,278 records, 4 studies were included, encompassing 41,868 patients (anticoagulants use = 4,804; no anticoagulation = 32,649), with 25% on anticoagulant therapy submitted to minimally invasive surgery (MIS). Additionally, 90% of patients using anticoagulants underwent mesh placement (Figure 1). Overall analysis showed increased hemorrhagic/thrombotic complications (RR 2.34; 95% CI 1.13 to 4.84; $p = 0.02$), bleeding-related reoperation (RR 6.57; 95% CI 4.34 to 9.94; $p < 0.00001$), and longer hospital stays (MD 1.69 days; 95% CI 0.66 to 2.72 days; $p = 0.001$) in patients using anticoagulant medications. However, transfusion rates (RR 2.14; 95% CI 0.58 to 7.95; $p = 0.26$) demonstrated comparable results between groups (Figure 2).

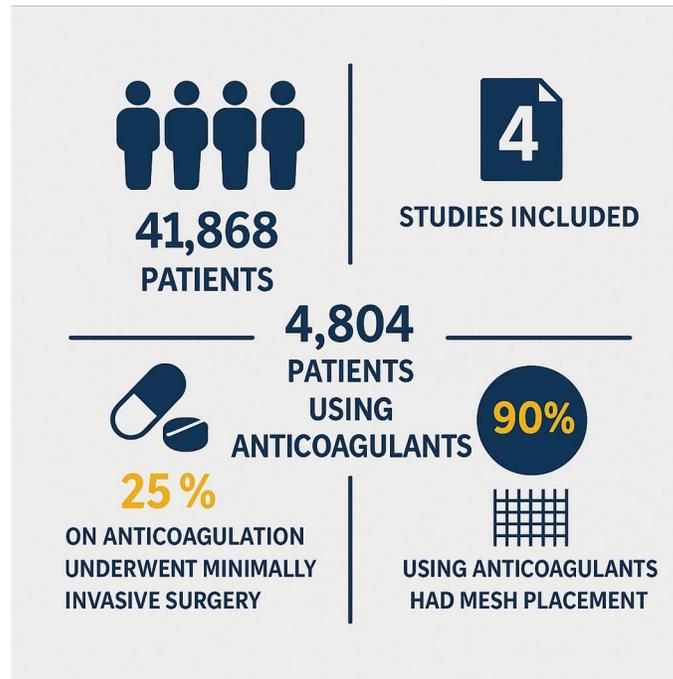
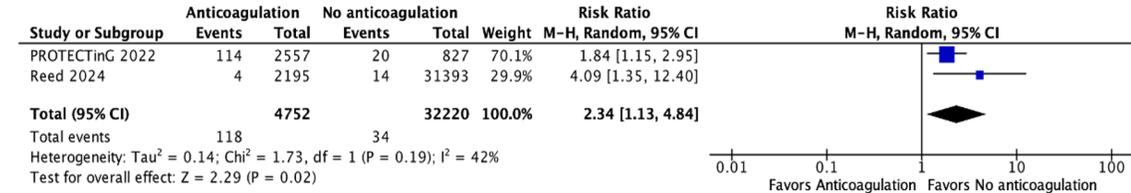


Figure 1. Summary of patient distribution and key characteristics.

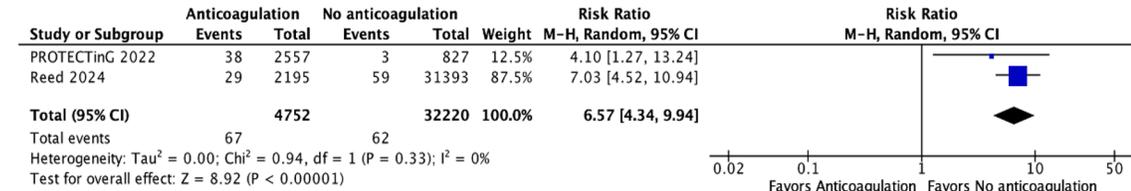
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 and Table 1



(A)



(B)



(C)

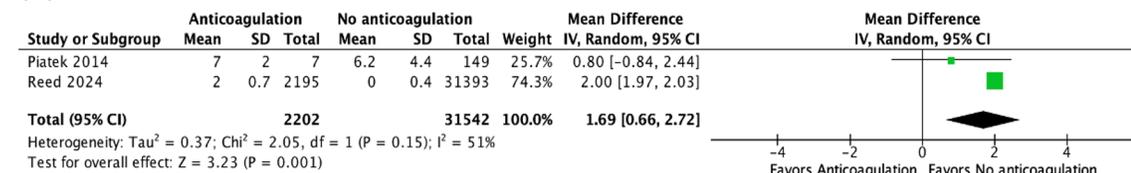


Figure 2. (A) Anticoagulant therapy following ventral hernia repair was associated with significantly increased hemorrhagic/thrombotic complications; (B) bleeding-related reoperations; and (C) longer hospital stays.

Conclusion

The use of anticoagulant therapy following VHR is associated with increased hemorrhagic/thrombotic complications, bleeding-related reoperations, prolonged hospitalization, and similar transfusion rates. Further research is still required to validate these findings and explore the impact of MIS on anticoagulated patients following VHR.