THROMBOPROPHYLAXIS USING FACTOR-XA INHIBITORS PROVIDES BETTER OUTCOMES THAN TRADITIONAL ANTICOAGULANTS IN MULTIPLE MYELOMA PATIENTS UNDERGOING IMMUNOMODULATORY THERAPY: A SYSTEMATIC REVIEW AND META-ANALYSIS

M.A. Shabbir[1], H.M.E. Arshad[2], F. Ali[2], A. Babar[2], A.A. Nadeem[2], M.Z. Raza[2], O.A. Gill[2], M. Usman[3], and M. Maqsood[2]

1. Gujranwala Medical College, Gujranwala, Pakistan
2. King Edward Medical University, Lahore, Pakistan
3. Khawaja Muhammad Safdar Medical College, Sialkot, Pakistan

Introduction

Immunomodulatory drugs (IMiDs), a cornerstone in the treatment of multiple myeloma (MM), are associated with an increased risk of thromboembolism, particularly when combined with dexamethasone[1]. Current guidelines recommend direct-acting oral anticoagulants (DOACs) as an alternative to traditional anticoagulants, including aspirin (ASA), warfarin, or low molecular weight heparins (LMWHs) for thrombo-prophylaxis, yet limited data exists on their comparative effectiveness in this setting[2].

Aim

To assess whether DOACs reduce the incidence of venous thromboembolic events (VTE) more effectively than aspirin, warfarin, or LMWHs in this patient population.

Objectives

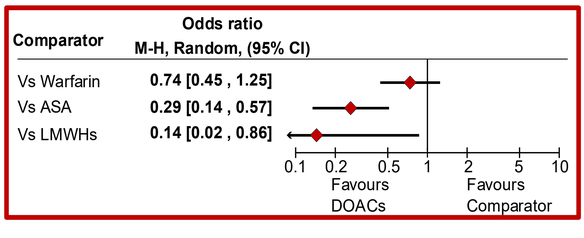
To determine the comparative efficacy and safety of DAOCs (apixaban and rivaroxaban) against these commonly used anticoagulants.

Methods

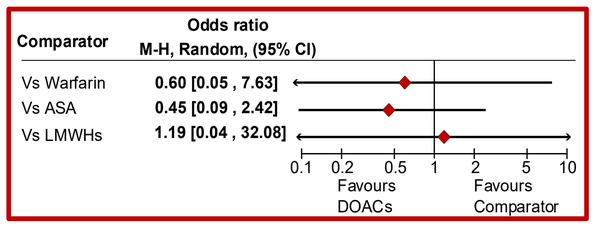
PubMed, Embase, Cochrane, ClinicalTrials.gov, and WHO ICTRP were searched for records published until March 2025. Text words and controlled vocabulary for “DAOCs”, “aspirin”, “heparins”, “warfarin”, and “multiple myeloma” were used. Pooled odds ratios (OR) and hazard ratios (HR) were calculated using Mantel-Haenszel and inverse-variance methods, respectively. A random effects model was used due to thec expected heterogeneity. All the analyses were done in RevMan Web.

Results

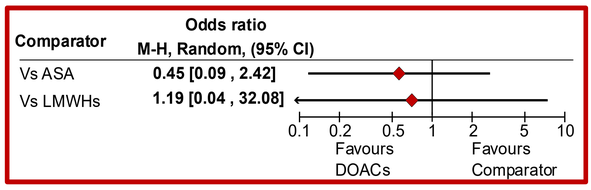
- Of the 627 records identified from the searched sources, 4 RCTs and 12 cohorts, encompassing 3,578 MM patients receiving immunomodulatory therapy ± dexamethasone were included.
- DOACs demonstrated significantly lower incidence of VTE compared to ASA (OR=0.29; 95%-CI: 0.14, 0.57; P=0.002) and LMWHs (OR=0.14; 95%-CI: 0.0286; P=0.03), and comparable incidence to warfarin (OR=0.74; 95%-CI: 0.45,1.25; P=0.26).



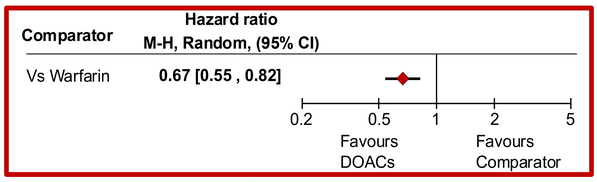
- Risk of major bleed remained comparable to other drugs (ASA: P=0.36; warfarin: P=0.69; LMWHs: P=0.92).



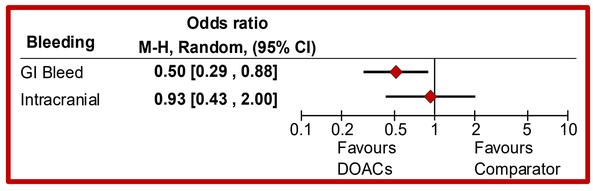
- Risk of minor bleed was comparable to ASA (P=0.47), and LMWHs (P=0.77).



- DAOCs were associated with better overall survival compared to warfarin (HR=0.67; P<0.0001).



- Lower incidence of GI bleed (OR=0.50; P=0.02), and comparable incidence of intracranial bleed (P=0.85) compared to warfarin.



Summary

Factor Xa inhibitors had superior efficacy and comparable bleeding risk compared to ASA, and LMWHs. In contrast, they had comparable efficacy with warfarin.

Discussion

The better efficacy, ease of use, and comparable risk of bleeding, when compared with traditionally used anticoagulants, makes DOACs a suitable choice even as primary thrombo-prophylactic agents in MM patients. However, RCTs with extended follow-up are needed to rule out any added complications that come with anti-thrombosis in a population that already has a high morbidity burden.

References

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The author(s) declare no conflicts of interest related to this poster presentation