Direct Oral Anticoagulants are comparable to Warfarin for Post-MI Left Ventricular Thrombus: A Meta-analysis of Randomized Trials

Parth Patel MD[1], Aditya Desai MD[2], Karnik Patel MD[3], Maharshi Raval MD[4], Nirmit Patel MD[5], Vaishvik Patel MD[6], Het Patel MD[7], Saif-Eddin Dabour MD[1], Said Ashraf MD[1], Jeffrey E. Van Hook DO[1], Waqas Ullah MD[1]

[1]Atlanticare Regional Medical Center, [2]University of California Riverside School of Medicine, [3]Overland Park Regional Medical Center, [4]Boston Medical Center, [5]NYMC at St. Mary's and St. Clare's General Hospital, [6]University of Connecticut Health, [7]Broward Health Medical Center

BACKGROUND

Direct oral anticoagulants (DOACs) are increasingly used off label for post-myocardial infarction (MI) left ventricular thrombus (LVT) because of lower monitoring burden compared with warfarin. We conducted a systematic review and meta-analysis of randomized controlled trials (RCTs) to evaluate the efficacy and safety of DOACs versus warfarin for the management of post-MI LVT.

METHODS

We searched PubMed, Cochrane and Embase from inception to October 2025 for RCTs comparing DOACs with warfarin in patients with post-MI LVT. A total of 448 patients from 5 RCTs were analyzed. Major adverse cardiovascular events (MACE) were defined as a composite of death from any cause, stroke, and myocardial infarction. Pooled risk ratios (RR) with 95% confidence intervals (CI) were estimated using random-effects models, and heterogeneity was assessed using the I^2 statistic.

AtlantiCare
REGIONAL MEDICAL CENTER

Figure 1. Complete resolution of LVT at 3 months

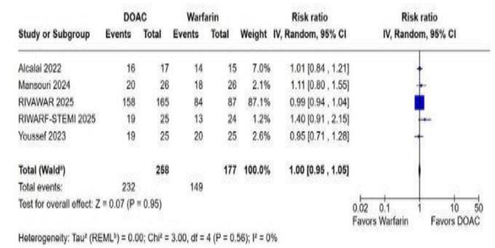


Figure 2. Stroke/systemic embolism

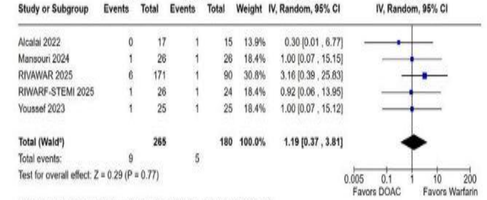


Figure 3. Major bleeding

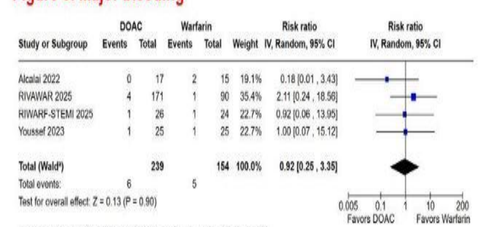


Figure 4. All-cause mortality

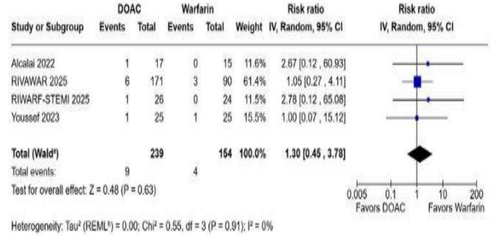


Figure 5. Major adverse cardiovascular event

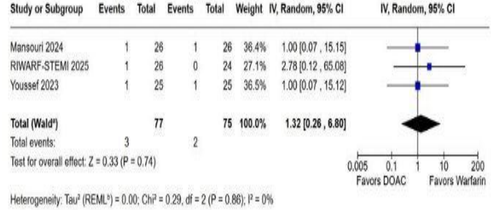
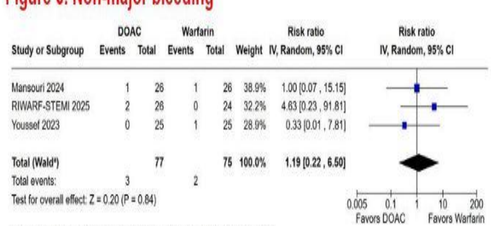


Figure 6. Non-major bleeding



RESULTS

DOACs demonstrated similar efficacy to Warfarin in achieving complete LVT resolution (RR 1; 95% CI 0.95-1.05; p=0.95; I^2=0%; Figure 1). No statistically significant differences were observed in stroke/systemic embolism (RR 1.19; 95% CI 0.37-3.81; p=0.77; I^2=0%; Figure 2), major bleeding (RR 0.92; 95% CI 0.25-3.35; p=0.90; I^2=0%; Figure 3), all-cause mortality (RR 1.30; 95% CI 0.45-3.78; p=0.63; I^2=0%; Figure 4), MACE (RR 1.32; 95% CI 0.26-6.80; p=0.74; I^2=0%; Figure 5), or non-major bleeding (RR 1.19; 95% CI 0.22-6.50; p=0.84; I^2=0%; Figure 6).

CONCLUSION

DOACs are equally effective and safe to warfarin for post-MI LVT resolution and major clinical outcomes. Larger multicenter RCTs are warranted to validate these findings across broader populations.

CONTACT INFO

parthpmd@gmail.com