

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

Authors: Parth Patel MD, Aditya Desai MD, Karnik Patel MD, Maharshi Raval MD, Nirmal Patel MD, Vaishvik Patel MD, Het Patel MD, Saif Eddin Dabour MD, Said Ashraf MD, Jeffrey E. Van Hook DO, Waqas Ullah MD

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.

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).

Conclusions: 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.