

Direct oral anticoagulants versus vitamin-K antagonists for left ventricular thrombus - a systematic review and meta-analysis

Saleiro C.; Lopes J.; Campos D.; Puga L.; Costa M.; Goncalves L.; Teixeira R.

University Hospitals of Coimbra, Coimbra, Portugal

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Background: Left ventricular (LV) thrombus is a current clinical problem. The incidence of systemic embolism (SE) is up to 16% in these patients and international guidelines recommend anticoagulation with vitamin-K antagonists (VKAs). Data on direct oral anticoagulants (DOACs) for LV thrombus is increasing but still with conflicting results.

Methods: We performed a systematic review and meta-analysis of studies assessing the efficacy of DOACs versus VKAs in LV thrombus resolution, SE events and/or stroke and bleedings events. We systematically searched PubMed and Cochrane database for studies comparing DOACs versus VKAs as anticoagulant strategy for LV thrombus. Random-effects meta-analysis was performed.

Results: Four studies were included: n= 727 patients (DOACs group – 243 patients vs VKAs group – 484 patients). There is a 40% reduction in the odds for achieving thrombus resolution in the group of patients treated with DOACs (pooled OR 0.60; 95% CI 0.43-0.85; I2 =0%; P= 0.003) - Figure 1A. No difference between groups for the odds of SE and/or stroke was observed during follow-up (pooled OR 1.75; 95% CI 0.92-3.35; I2 =0%; P= 0.09) - Figure 1B. Bleedings events were not different between both anticoagulant strategies (pooled OR 0.65; 95% CI 0.30-1.39; I2= 0%; P= 0.26) - Figure 1C.

Conclusion: Although probably with less efficacy for thrombus resolution, the use of DOAC for LV thrombus does not seem to increase the risk of SE and/or stroke or bleedings events compared to VKAs.

Abstract Figure 1 - Pooled analysis (DOAC vs VKA)

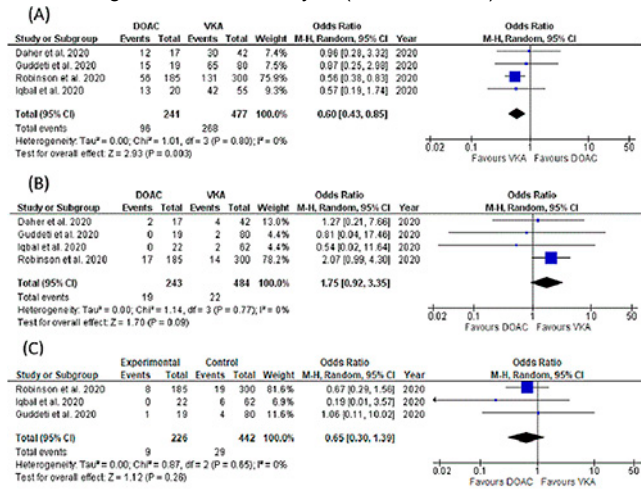


Figure 1. A- Pooled analysis for thrombus resolution comparing DOAC and VKA. B- Pooled analysis for systemic embolism and/or stroke comparing DOAC and VKA. C- Pooled analysis for bleeding events comparing DOAC and VKA. Numbers displayed represent ORs with 95% CIs. DOAC – direct oral anticoagulants; VKA – vitamin K antagonists; OR – odds ratio; CI – confidence intervals.