



Introduction

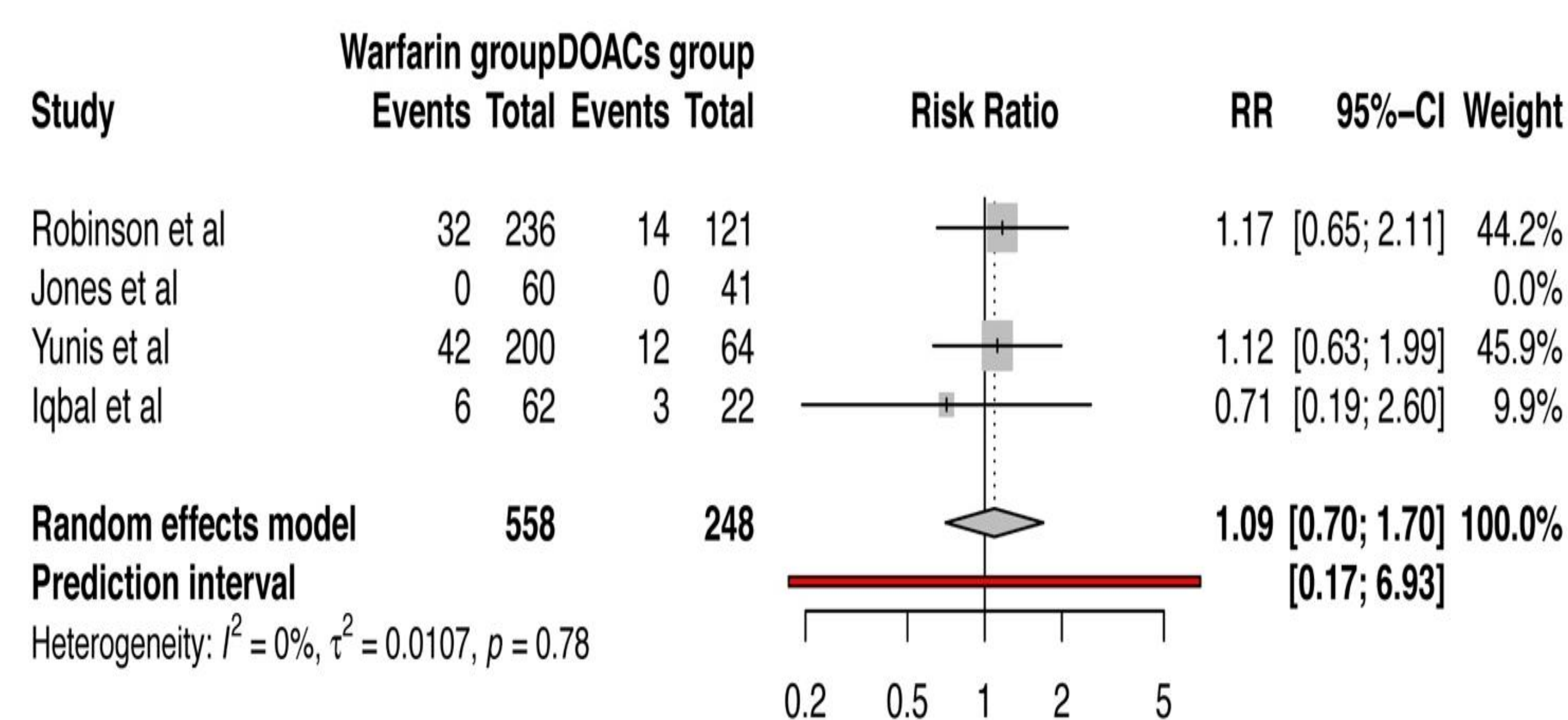
- Left Ventricular thrombus (LVT) is not uncommon. The incidence of LV thrombus varies from 4 % to 15%.
- LVT are notorious for causing stroke and systemic embolization. This risk can be mitigated by systemic anticoagulation.
- Direct Oral anticoagulants (DOACs) are being increasingly used as an alternative to warfarin for anticoagulation. But their safety and efficacy have been debated.

Materials & Methods

- We systematically searched Pubmed, Medline, Google Scholar, Cochrane library and LILCAS databases from inception to 14th August 2020 to identify relevant studies comparing warfarin and DOACs for LVT treatment.
- We used the pool data extracted from retrieved studies to perform a metanalysis.
- We used meta and metafor packages for performing our metanalysis. All stastical analysis was conducted in R (v3.6.3)

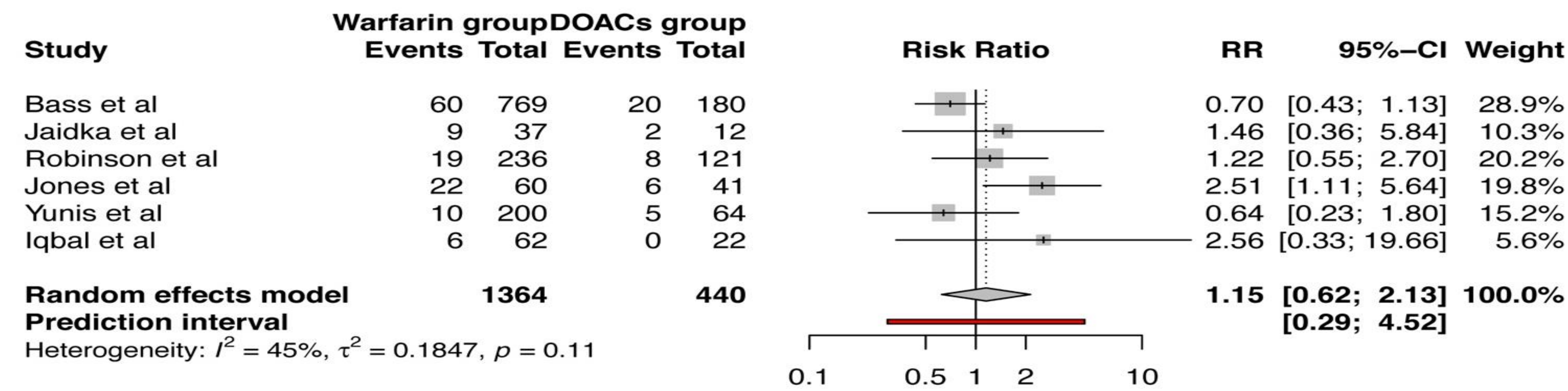
Results

- We report pooled data on 1955 patients from 8 studies.
- The mean age was 61 years in warfarin group and 59.7 years in DOAC group.
- The pooled Risk ratio (RR) for overall mortality was 1.09 (95%CI 0.7 – 1.7; p=0.48) comparing warfarin to DOAC as shown below in figure 1.

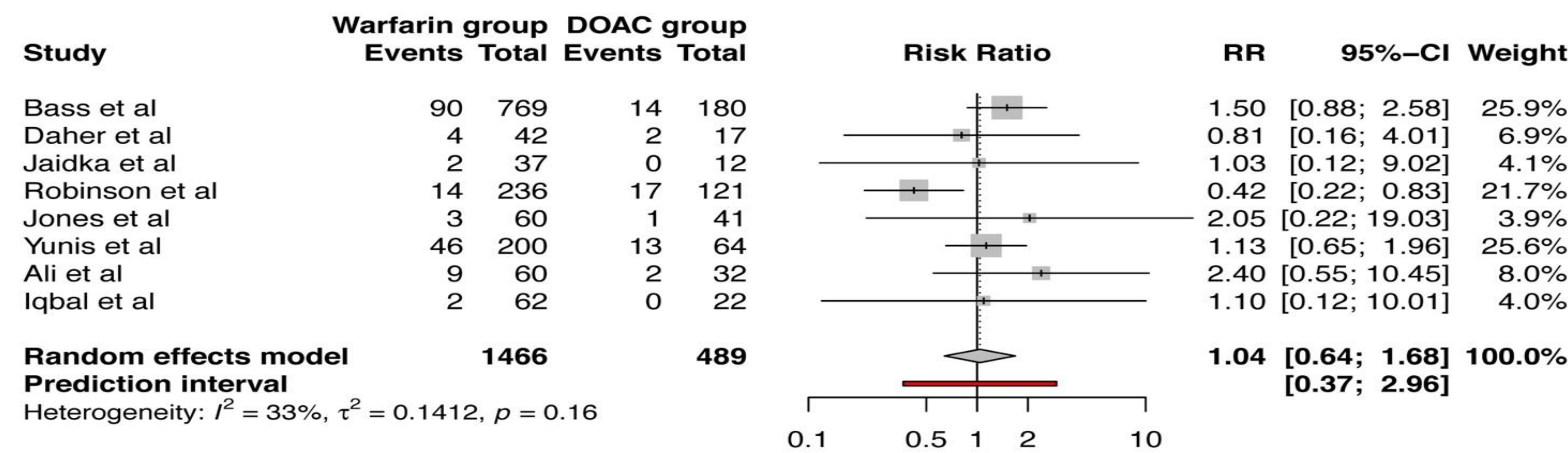


Results

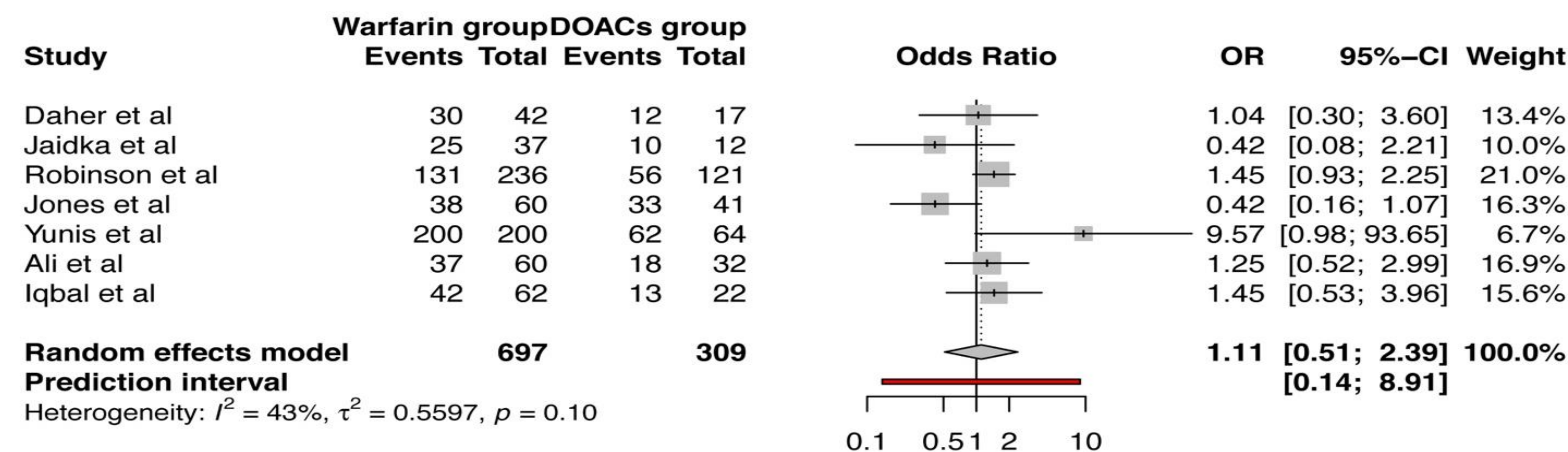
- The pooled risk ratio (RR) of bleeding complications in patients treated with warfarin to those treated with DOACs was 1.15 (95% CI 0.62–2.13) (p = 0.57) as shown in Figure 2 below



- The pooled RR for stroke or systemic embolization was — 1.04 (95% CI 0.64–1.68) (p = 0.85) for warfarin vs DOACs group as shown in Figure 3 below.



- The odds of thrombus resolution in warfarin group was 11% higher compared to DOACs group, with a pooled odds ratio of 1.11 (95% CI 0.51–2.39) but it did not reach a statistical significance (p = 0.76), as shown in Figure 4 below.



Discussion

- To the best of our knowledge, this is the first metanalysis to compare safety and efficacy of DOAC vs warfarin in patients with LVT.
- We found that there is no statistically significant difference in thrombus resolution, risks of bleeding complications, stroke or systemic embolization (SSE), and mortality in LVT patients treated with warfarin compared to those treated with DOACs.
- Based on the findings of our analysis, it may appear that the two treatments share a similar clinical and safety profile. We do not recommend using DOACs for LVT due to lack of availability of randomized control trials to be included in our meta analysis.
- Hence, the results should be hypothesis generating for larger studies.
- Current guidelines favor use of warfarin over DOAC for treatment of LVT due to lack of data showing safety and efficacy of DOACs. And, no consensus on duration of anticoagulation treatment.

Conclusion

- DOACs appear to be non-inferior or at least as effective as warfarin in the treatment of left ventricle thrombus without any statistical difference in stroke, systemic embolization, bleeding or overall mortality.
- Larger studies are needed to compare the effectiveness of DOACs to warfarin in treatment of left ventricular thrombus.

Funding & Acknowledgements

None