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Treatment of distal deep vein thrombosis: a Cochrane Review

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Background

The treatment of distal (below the knee) deep vein thrombosis (DVT) is not clearly established. Distal DVT can either be treated with anticoagulation, or monitored with close follow-up to detect progression to the proximal veins (above the knee), which requires anticoagulation. Proponents of this monitoring strategy base their decision to withhold anticoagulation on the fact that progression is rare and most people can be spared from potential bleeding and other adverse effects of anticoagulation.

Objectives

To assess the effects of different treatment interventions for people with distal (below the knee) deep vein thrombosis (DVT).

Search methods

The Cochrane Vascular Information Specialist searched the Cochrane Vascular Specialised Register, CENTRAL, MEDLINE, Embase and CINAHL databases and World Health Organization International Clinical Trials Registry Platform and ClinicalTrials.gov trials registers to 12 February 2019. We also undertook reference checking to identify additional studies.

Selection criteria

Randomised controlled trials (RCTs) for the treatment of distal DVT.

Data collection and analysis

Two review authors independently selected trials and extracted data. We resolved disagreements by discussion. Primary outcomes of interest were recurrence of venous thromboembolism (VTE), DVT and major bleeding and follow up ranged from three months to two years. We performed fixed-effect model meta-analyses with risk ratio (RRs) and 95% confidence intervals (CIs). We assessed the certainty of the evidence using GRADE.

Main results

We identified eight RCTs reporting on 1239 participants. Five trials randomised participants to anticoagulation for up to three months versus no anticoagulation. Three trials compared anticoagulation treatment for different time periods.

Anticoagulant compared to no intervention or placebo for distal DVT treatment

Anticoagulation with a vitamin K antagonist (VKA) reduced the risk of recurrent VTE during follow-up compared with participants receiving no anticoagulation (RR 0.34, 95% CI 0.15 to 0.77; 5 studies, 496 participants; I2 = 3%; high-certainty evidence), and reduced the risk of recurrence of DVT (RR 0.25, 95% CI 0.10 to 0.67; 5 studies, 496 participants; I2 = 0%; high-certainty evidence). There was no clear effect on risk of pulmonary embolism (PE) (RR 0.81, 95% CI 0.18 to 3.59; 4 studies, 480 participants; I2 = 0%; low-certainty evidence). There

JBMEDE 2021;1(2):e21018

This review is an abridged version of a Cochrane Review previously published in the Cochrane Database of Systematic Reviews 2020, Issue 4. Art. No.: CD013422. DOI: 10.1002/14651858.CD013422.pub2.. (see www.cochranelibrary.com for information). Cochrane Reviews are regularly updated as new evidence emerges and in response to feedback, and Cochrane Database of Systematic Reviews should be consulted for the most recent version of the review.

was little to no difference in major bleeding with anticoagulation compared to placebo (RR 0.76, 95% CI 0.13 to 4.62; 4 studies, 480 participants; I2 = 26%; low-certainty evidence). There was an increase in clinically relevant non-major bleeding events in the group treated with anticoagulants (RR 3.34, 95% CI 1.07 to 10.46; 2 studies, 322 participants; I2 = 0%; high-certainty evidence). There was one death, not related to PE or major bleeding, in the anticoagulation group.

Anticoagulation for three months or more compared to anticoagulation for six weeks for distal DVT treatment

Three RCTs of 736 participants compared three or more months of anticoagulation with six weeks of anticoagulation. Anticoagulation with a VKA for three months or more reduced the incidence of recurrent VTE to 5.8% compared with 13.9% in participants treated for six weeks (RR 0.42, 95% CI 0.26 to 0.68; 3 studies, 736 participants; I2 = 50%; high-certainty evidence). The risk for recurrence of DVT was also reduced (RR 0.32, 95% CI 0.16 to 0.64; 2 studies, 389 participants; I2 = 48%; high-certainty evidence), but there was probably little or no difference in PE (RR 1.05, 95% CI 0.19 to 5.88; 2 studies, 389 participants; I2 = 0%; low-certainty evidence). There was no clear difference in major bleeding events (RR 3.42, 95% CI 0.36 to 32.35; 2 studies, 389 participants; I2 = 0%; low-certainty evidence) or clinically relevant non-major bleeding events (RR 1.76, 95% CI 0.90 to 3.42; 2 studies, 389 participants; I2 = 1%; low-certainty evidence) between three months or more of treatment and six weeks of treatment. There were no reports for overall mortality or PE and major bleeding-related deaths.

Authors' conclusions

Our review found a benefit for people with distal DVT treated with anticoagulation therapy using VKA with little or no difference in major bleeding events although there was an increase in clinically relevant non-major bleeding when compared to no intervention or placebo. The small number of participants in this meta-analysis and strength of evidence prompts a call for more research regarding the treatment of distal DVT. RCTs comparing different treatments and different treatment periods with placebo or compression therapy, are required.

Section Info

This section reproduces articles previously published by Cochrane Database of Systematic Reviews and is carried out in coordination with Patricia Jabre, Yannick Auffret, Sebastien Beroud, Julie Dumouchel, Virginie-Eve Lvovschi, Kirk Magee, Daniel Meyran, Patrick Miroux, Nordine Nekhili and Youri Yourdanov from the Cochrane Pre-hospital and Emergency Care group.