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VENOUS THROMBOEMBOLISM

Thromboprophylaxis with statins

Use of a statin, particularly rosuvastatin, is associated with a reduced risk of venous thromboembolism (VTE), according to the results of a systematic review and meta-analyses published in *Lancet Haematology*.

The researchers identified 36 eligible studies: 13 cohort studies ($n = 3{,}148{,}259$ participants) and 23 randomized, controlled trials ($n = 118{,}464$ participants). In the observational studies, statin use was associated with a reduced relative risk (RR) of VTE compared with no statin use (RR 0.75, 95% CI 0.65–0.87, $P < 0.0001$). Similarly, in randomized trials, statin use reduced the risk of VTE compared with placebo or no statin use (RR 0.85, 95% CI 0.73–0.99, $P = 0.038$). In subgroup analyses, rosuvastatin was associated with the lowest risk of VTE compared with other statins (RR 0.57, 95% CI 0.42–0.75, $P = 0.015$). Of note, statin use had no significant effect on the risk of pulmonary embolism, but was associated with a significant reduction in the risk of deep vein thrombosis in both observational studies (RR 0.77, 95% CI 0.69–0.86) and randomized, controlled trials (RR 0.45, 95% CI 0.25–0.79).

Pleiotropic effects of statins that might explain the antithrombotic effects include decreased expression of tissue factor, enhanced endothelial thrombomodulin expression, increased fibrinolytic capacity, and suppressed platelet activation.

"Statins cannot replace anticoagulants in high-risk clinical situations in which thromboprophylaxis is recommended. Heparin should be used in most patients who require prevention of VTE," states Anetta Undas (Jagiellonian University Medical College, Poland) in an associated editorial. "Beneficial effects of statins, in terms of VTE risk, should be perceived as additional effects that might be seen in patients taking these drugs for indications other than VTE, mainly the prevention of myocardial infarction or ischaemic cerebrovascular events. Statins should not be prescribed solely to reduce the risk of first VTE."

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