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Statins to Prevent Venous Thromboembolic Disease

The beneficial effects of statins on arterial thrombosis and inflammation appear to extend to the venous side as well.

The manufacturer-sponsored, randomized, placebo-controlled JUPITER trial of rosuvastatin (20 mg/day) for prevention of coronary disease ([JW Cardiol Nov 10 2008](#)) included a prespecified analysis of the drug's effect on incident venous thromboembolism (VTE, including pulmonary embolism and deep venous thrombosis). The study population comprised 17,802 healthy men and women with LDL levels <130 mg/dL and elevated C-reactive protein levels.

During a median follow-up of 1.9 years, the rates of symptomatic VTE were 0.18 and 0.32 events per 100 person-years in the rosuvastatin and placebo groups, respectively ($P=0.007$), amounting to one occurrence of VTE averted for every 714 patients treated with rosuvastatin for 1 year. The cumulative-incidence curves did not diverge until about 1 year of follow-up. When the 44 VTE events that occurred in patients with cancer or recent trauma were analyzed separately from the 50 cases with no apparent provocation, the reductions in risk with rosuvastatin were similar in both analyses. In subgroup analyses, no baseline characteristic significantly modified the treatment effect. The rates of the composite endpoint for the first occurrence of either VTE or a primary cardiovascular event were 0.93 and 1.66 events per 100 person-years in the rosuvastatin and placebo groups, respectively ($P<0.001$).

Comment: In apparently healthy individuals, rosuvastatin was associated with a significant reduction in symptomatic venous thromboembolism. This benefit was independent of the reduction in cardiac events found in the main trial. As promising as these findings are, whether they apply to all statins remains to be studied. We also need to determine statins' cost-effectiveness with regard to VTE, considering that most cases are not fatal. Until we have more data, it would be premature to recommend statins for primary prevention of VTE. A more clinically useful — but not yet studied — question is whether statins can prevent recurrent VTE in patients with a previous DVT or pulmonary embolism.

— [Joel M. Gore, MD](#)

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Glynn RJ et al. A randomized trial of rosuvastatin in the prevention of venous thromboembolism.