

ANTICOAGULATION THERAPY

Idrabiotaparinux noninferior to warfarin for long-term treatment of pulmonary embolism

Patients with pulmonary embolism are currently treated with a low-molecular-weight heparin (such as enoxaparin) and an antagonist of vitamin K (for example, warfarin); however, “warfarin requires lab testing, dose monitoring, and adjustment for interactions with foods and alcohol,” highlights Professor Harry Büller from the Academic Medical Center in Amsterdam.

Idrabiotaparinux is a synthetic pentasaccharide that specifically inhibits factor Xa activity and, because of its long half-life, is administered

as a once-weekly subcutaneous injection. Another benefit of idrabiotaparinux is that it contains a biotin moiety, which allows rapid cessation of its anticoagulation effect by infusion of avidin.

Professor Büller and colleagues randomly allocated 3,202 patients with acute pulmonary embolism from 37 countries to receive subcutaneous enoxaparin (1.0 mg/kg) twice daily for 5–10 days and then either conventional, dose-adjusted warfarin tablets (target international normalized ratio 2–3) or subcutaneous idrabiotaparinux (starting dose 3.0 mg). A double-dummy, double-blind trial design was used and regimen duration was 3–6 months.

Recurrent venous thromboembolism occurred in 2% and 3% of patients in the idrabiotaparinux and warfarin groups, respectively (OR 0.79, 95% CI 0.50–1.25, $P=0.0001$ for noninferiority). Clinically relevant bleeding (the main safety outcome) occurred in 5% and 7% of patients in each

group, respectively (OR 0.67, 95% CI 0.49–0.91, $P=0.0098$ for superiority).

“These data present an exciting opportunity to look at replacing oral, dose-adjusted warfarin with a once-weekly, fixed-dose injection,” suggests Professor Büller. Furthermore, no pharmacokinetic interactions are known for idrabiotaparinux, which also “has an amazing long-term effect. Protection continues for 3–6 months after treatment is stopped (because of the long half-life of the drug), and without an increased risk of bleeding. We could speculate about having to inject patients only every 1–2 months, although further study is needed.”

Gregory B. Lim

Original article Büller, H. R. et al. Enoxaparin followed by once-weekly idrabiotaparinux versus enoxaparin plus warfarin for patients with acute symptomatic pulmonary embolism: a randomised, double-blind, double-dummy, non-inferiority trial. *Lancet* doi:10.1016/S0140-6736(11)61505-5



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