

Title: Pooled Rivaroxaban Clinical Trial Data: Timing of Symptomatic VTE and Bleeding Events after TKA

William D Fisher¹, Michael Gent², Michael R Lassen³, Ajay K Kakkar^{4,5}, Bengt I Eriksson⁶, Scott D Berkowitz⁷, Alexander GG Turpie², on behalf of the RECORD1–4 investigators

¹McGill University Health Centre, Montreal, Canada

²McMaster University, Hamilton, Canada

³Nordsjællands Hospital, Hoersholm, Denmark

⁴Barts and the London School of Medicine, London, UK

⁵Thrombosis Research Institute, London, UK

⁶Sahlgrenska University Hospital, Gothenburg, Sweden

⁷Bayer HealthCare Pharmaceuticals, Montville, NJ, USA

Introduction: Despite advances in the management of patients undergoing total knee arthroplasty (TKA) and earlier discharge at around 4 days, venous thromboembolism (VTE) remains a concern, with many events occurring after discharge. Pooled analysis of the RECORD3 and RECORD4 studies evaluated efficacy, safety, and timing of events with rivaroxaban versus enoxaparin for VTE prevention after TKA.

Methods: Patients (N=5,679) were randomized to receive oral rivaroxaban 10 mg once daily starting postoperatively or subcutaneous enoxaparin 40 mg once daily starting preoperatively (EU regimen; RECORD3) or enoxaparin 30 mg 12 hourly starting postoperatively (North American regimen; RECORD4) for 10–14 days. The incidence and timing of symptomatic VTE and death during treatment, and treatment-emergent bleeding (any, major, major including surgical site, major plus clinically relevant non-major [CRNM] after first dose of study medication and up to 2 days after last dose) were assessed.

Results: Rivaroxaban significantly reduced symptomatic VTE and death versus enoxaparin regimens (0.73% vs 1.71%, respectively; $p=0.001$). With both regimens, the majority of venous thromboembolic events occurred after day 4 (70% with rivaroxaban, 68% with enoxaparin). For the composite of major plus CRNM bleeding events, 44% and 38% occurred after day 4 with rivaroxaban and enoxaparin regimens, respectively. There were no significant differences between groups for any treatment-emergent bleeding endpoints.

Conclusion: Rivaroxaban significantly reduced symptomatic VTE and death after TKA compared with enoxaparin regimens, with no significant difference in bleeding. Major plus CRNM bleeding was more likely to occur before day 4, whereas the majority of symptomatic venous thromboembolic events occurred after day 4.

*It may not be possible to action comments received after this date.