

Patient Satisfaction and Out-of-Pocket Costs Associated with Aspirin and Low-Molecular-Weight Heparin: A Secondary Analysis of the PREVENT CLOT Study

Nathan N O'Hara¹, Robert V O'Toole, Katherine Frey², Deborah M. Stein, Renan C Castillo³, Julie Agel⁴, Gregory T Altman, Michael J Bosse, Anthony R Carlini⁵, Eben A Carroll⁶, Yasmin Degani, Reza Firoozabadi⁷, Joshua Layne Gary⁸, Greg E Gaski, Elliott Haut⁹, Robert A Hymes, Madhav A Karunakar, Conor P Kleweno¹⁰, Todd Owen McKinley¹¹, William T. Obremsky¹², Gerard Slobogean¹³, Kuladeep R Sudini, Tara J Taylor⁵, Heather A Vallier¹⁴, Stephen James Warner¹⁵, John C Weinlein

¹University of Maryland, ²Johns Hopkins University, ³John Hopkins Bloomberg School of Public Health, ⁴Harborview Med Ctr, ⁵Johns Hopkins Bloomberg School of Public Health, ⁶Wake Forest Univ School Of Medicine, ⁷UW Medicine, ⁸Keck School of Medicine of USC Department of Ortho, ⁹The Johns Hopkins University School of Medicine, ¹⁰University of Washington Orthopaedics, ¹¹IU Health Physicians, ¹²Vanderbilt Ortho Inst, ¹³University of Maryland School of Medicine, ¹⁴Metrohealth Med Ctr, ¹⁵McGovern Medical School At Uthealth

INTRODUCTION: We aimed to determine if the type of thromboprophylaxis affected patients' medication satisfaction and out-of-pocket costs after orthopaedic trauma. We hypothesized that patients treated with aspirin would have increased medication satisfaction and lower out-of-pocket costs.

METHODS: This was a prespecified secondary analysis of PREVENT CLOT, a randomized clinical trial performed at 21 trauma centers in the US and Canada. We included adult patients with an operatively treated extremity fracture or a pelvis or acetabulum fracture, treated surgically or nonsurgically. Patients were randomly assigned to 30 mg low-molecular-weight heparin (enoxaparin) or 81 mg aspirin, twice daily. The duration of thromboprophylaxis was based on existing hospital protocols. Our main outcomes were patient satisfaction and out-of-pocket costs. We measured patients' thromboprophylaxis satisfaction using a 7-point Likert scale adapted from the Treatment Satisfaction Questionnaire for Medication. Patients reported their total out-of-pocket costs associated with thromboprophylaxis 90 days after injury. We estimated treatment effects using cumulative logit and logistic regression models.

RESULTS: A total of 9,115 patients completed the medication satisfaction question, and 6,723 patients reported their out-of-pocket costs. The mean age was 44 (SD, 17) years, and 88% had a lower extremity fracture. The odds of greater medication satisfaction were 2.6 times higher for patients assigned to aspirin than those assigned to low-molecular-weight heparin (odds ratio, 2.59; 95% CI: 2.39 to 2.80; $p < 0.001$). Overall, the odds of incurring any out-of-pocket costs for thromboprophylaxis medication were 51% higher for patients assigned to aspirin compared to low-molecular-weight heparin (odds ratio, 1.51; 95% CI: 1.37 to 1.66; $p < 0.001$). However, patients assigned to aspirin had substantially lower odds of out-of-pocket costs exceeding \$25 (odds ratio, 0.15; 95% CI, 0.12 to 0.18; $p < 0.001$).

DISCUSSION AND CONCLUSION: Among orthopaedic trauma patients, aspirin substantially improved medication satisfaction. While aspirin increased the odds of incurring any out-of-pocket costs, it protected against costs exceeding \$25, possibly improving health equity for thromboprophylaxis. These data should be considered by patients, healthcare systems, and clinicians when prescribing thromboprophylaxis for orthopaedic trauma patients.