Are Factor Xa Inhibitors Effective Thromboprophylaxis After Hip Fracture Fixation?

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Purpose: Current anticoagulants effectively mitigate venous thromboembolism (VTE) risk, but there is no clear consensus on the preferred agent after surgical fixation of hip fractures. Factor Xa inhibitors have been found to be effective in total joint arthroplasty, but the data on their use in hip fracture patients are limited. The purpose of this study was to directly compare the efficacy of factor Xa inhibitors, enoxaparin, and warfarin as VTE prophylaxis agents after surgical fixation of hip fractures in large cohorts of patients.

Methods: We queried a combined private-payer and Medicare database from 2007-2015. We identified all patients who had surgical fixation of a hip fracture. Any patient with antiplatelet or anticoagulants prescribed within 1 year prior to hip fracture was excluded. We identified patients who had factor Xa inhibitors, enoxaparin, and warfarin first prescribed within 2 weeks of surgical fixation. Cohorts were matched by age and gender. Charlson Comorbidity Index (CCI) was calculated, and complication incidences were compared.

Results: We analyzed 2326 hip fracture patients who had enoxaparin, 929 patients who received a factor Xa inhibitor, and 835 patients who had warfarin. The average CCI for each group was 3, indicating similar overall health status. Factor Xa and enoxaparin had comparable incidences of deep venous thrombosis (DVT) at 90 days (4.31% and 4.94%, respectively), while warfarin therapy resulted in a statistically significant higher DVT incidence (6.71%). Pulmonary embolism incidence was lowest in enoxaparin at 1.25% and higher with both factor Xa inhibitors and warfarin (2.15% and 2.63%, respectively). Bleeding risk, anemia, and transfusion rates were comparable across all groups.

Conclusion: Enoxaparin and factor Xa inhibitors are both more efficacious than warfarin for VTE prophylaxis after surgical fixation of hip fractures. Given the cost of novel anticoagulants, enoxaparin may remain the preferred agent, although factor Xa inhibitors are a viable alternative.

See pages 401 - 442 for financial disclosure information.