Full Reversal of Anticoagulants Prior to Cephalomedullary Fixation of Geriatric Hip Fractures May Not Be Necessary

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Purpose: Our objective was to examine the relationship between anticoagulants and antiplatelet drugs and surgical blood loss for geriatric patients undergoing cephalomedullary nail fixation of extracapsular proximal femur fractures.

Methods: A multicenter retrospective cohort study was performed examining 1442 geriatric (ages 60–105 years) patients undergoing cephalomedullary nail fixation of non-pathologic extracapsular hip fractures in the years 2009–2018 at 2 Level I trauma centers. Included were 657 patients taking aspirin or other antiplatelet drugs, 99 taking warfarin, 37 taking direct oral anticoagulants (DOACs), and 59 taking an antiplatelet drug and an anticoagulant. Bivariate comparisons and multivariable regression analyses were conducted to ascertain the association between preoperative use of these medications and subsequent calculated blood loss (based on hemoglobin dilution) and need for transfusion.

Results: More patients taking antiplatelet drugs required a transfusion than controls (43% vs 33%, P<0.001) whereas patients taking warfarin or DOACs did not (41% or 30% vs 38%). Median calculated blood loss was increased in patients taking antiplatelet drugs (1268 mL vs 1038 mL, P<0.001) but not in patients taking warfarin or DOACs (1059 mL or 1032 mL vs 1174 mL). Antiplatelet drugs were independently associated with an odds ratio of transfusion of 1.45 (95% confidence interval [CI] 1.1–1.9) in contrast with 0.76 (95% CI 0.5–1.2) for warfarin and 0.67 (95% CI 0.3–1.4) for DOACs. Mean preoperative International Normalized Ratio (INR) for patients taking warfarin was 1.4.

Conclusion: Only partial reversal of warfarin was seen with a mean INR of 1.4 and a 1-day increased length of stay. No reversal was used for patients taking DOACs, and their length of stay matched controls indicating their surgery was not delayed to permit clearance of the medications. Despite that, geriatric patients taking warfarin or DOACs lost less blood during cephalomedullary nail fixation of hip fractures than those taking aspirin. Therefore, delaying surgery to mitigate surgical blood loss related to anticoagulant use may not be necessary.