Evaluating BID versus TID Low Dose Unfractionated Heparin for VTE Prophylaxis in Elderly Hospitalized Patients

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Abstract

Introduction: Upon hospital admission, patients often receive venous thromboembolism (VTE) prophylaxis to reduce the risk of deep vein thrombosis (DVT) and pulmonary embolism (PE). This study aimed to evaluate the efficacy and safety of administering low-dose unfractionated heparin (5,000 units) subcutaneously twice daily versus thrice daily in hospitalized patients aged 65 and older.

Methods: This single-center, retrospective chart review included non-intensive care unit, non-surgical patients aged 65 and older at a community teaching hospital in Missouri from November 2023 to April 2024. Data was extracted from electronic health records. The primary outcome was a composite measure of VTE and major bleeding events occurring within 48 hours of the last heparin dose. Secondary outcomes included the individual rates of major bleeding and VTE events.

Results: A total of 612 patient charts were analyzed, with 100 patients in each dosing regimen group. No significant difference was found in the primary outcome between thrice-daily and twice-daily groups (3% vs. 0%, p=0.246). Secondary outcomes also showed no statistical significance, with two DVTs and one major bleed occurring in the thrice-daily group. However, the percentage of doses received was significantly higher in the twice-daily group (93% vs. 89%, p=0.028). Additionally, patients in the thrice-daily group had a higher average body weight (78.0 kg vs. 69.7 kg, p=0.006).

Conclusion: This study found no significant difference in VTE or major bleeding events between low-dose unfractionated heparin subcutaneously twice daily versus thrice daily in elderly hospitalized patients. It highlighted trends where heavier patients were more likely to receive thrice-daily dosing and indicated that lower frequency may reduce missed doses. Future research is needed to further explore these factors in heparin regimen selection.