

Improve accuracy of VTE prophylaxis by strict guideline application

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Background: Hospital-acquired venous thromboembolism (VTE) occurs at significant rates. 50% of these are preventable with appropriate pharmacological and/or mechanical prophylaxis. Pharmacological prophylaxis (PP) using low molecular weight heparin (LMWH), and unfractionated heparin (UH), are regulated by society and hospital guidelines, which should be followed for standard of care in order to prevent the occurrence of hospital acquired venous thromboembolism. This quality improvement project aimed to investigate whether PP was prescribed based on updated society and hospital guidelines.

Methods: Patient demographic data (age, gender, height, weight) and factors affecting guideline applications (renal function, active bleeding, current anticoagulant use, malignancy, COVID status) were collected and investigated from 100 consecutive patients on the medical/surgical floor at UH.

Results: A total of 100 consecutive patients, 53 males and 47 females, ages ranging 25 to 93 years, who were admitted to UH in April 2021, were included in the study through a cross-sectional chart review. We found that anticoagulants were correctly ordered in 70% of the patients based on society and/or hospital guidelines. Further study showed incorrect AC was ordered in 17 (CrCl, $P < 0.05$; COVID severity, $P < 0.05$; BMI, $P > 0.05$; religion, $P > 0.05$) and no AC was ordered in 13 when indicated ($P < 0.05$). Guidelines are applied more accurately in patients with current AC use, active bleeding, long bone fracture, and malignancy.

Conclusion: VTE prophylaxis with correct formula and dose is effective at preventing avoidable death, disability, and chronic ill health in at-risk hospitalized medical patients. There is room for improvement in following standard of care at UH while prescribing AC for VTE prophylaxis in hospitalized patients. Increased awareness and special attention should be paid to CrCl, COVID severity, BMI to improve the accuracy by strict guideline application, thus enhancing patient safety and standard of care.