

Once-Daily versus Twice-Daily Enoxaparin for Venous Thromboembolism Prophylaxis in High-Risk Trauma Patients

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Abstract

Venous thromboembolism (VTE) is associated with increased morbidity, mortality, and consumption of resources. Deep-vein thrombosis (DVT) and pulmonary embolism (PE) are two of the most common serious complications in trauma patients. Low-molecular-weight heparin (LMWH) is the accepted agent of choice for VTE prophylaxis in high-risk trauma patients. However, different dosing regimens of LMWH are used and their comparable effectiveness and safety has yet to be established.

The purpose of this retrospective cohort study is to compare the incidence of VTE and bleeding in high-risk trauma patients receiving once-daily versus twice-daily dosing of enoxaparin. Historically, trauma patients at our institution have received enoxaparin 40 mg subcutaneously once daily for prevention of VTE. About 18 months ago, the Trauma Department began using enoxaparin 30 mg subcutaneously twice daily for VTE prophylaxis in all trauma patients. Information from the Trauma Registry, as well as online medical records will be used to compare the incidence of VTE using the two dosing regimens. The secondary objective will be to compare the incidence of bleeding using the two dosing regimens. Information on approximately 6000 patients is contained in the Trauma Registry. A risk-stratification score will be calculated to determine patients who are at high-risk for VTE. An estimated 860 patients in each of the enoxaparin groups will be needed to identify a 1.5% difference in the incidence of VTE with alpha of 0.05 and 80% power. Descriptive statistical analysis and logistics regression analysis will be conducted to control for confounding variables and calculate differences in VTE and bleeding rates.