Category :**Hematology: Other**

A195 - ***Evaluation of a pharmacist-led protocol for antixa-based enoxaparin dosing in trauma patients***

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Introduction:

Patients with trauma are at high risk for venous thromboembolism (VTE) [1]. AntiXa (aXa) monitoring of prophylactic low molecular weight heparin (LMWH) is recommended by the 2002 EAST guidelines following initiation of therapy or after dose changes in some patients [2]. This study evaluates the efficacy of a pharmacist-led protocol for enoxaparin dose adjustment based on aXa levels in trauma patients.

Methods:

This single-center retrospective chart review included adult trauma patients admitted from 3/1/2018 to 6/20/2020. Patients received LMWH per protocol based on body mass index (BMI). Patients with BMI <40 kg/m2 received enoxaparin 30 mg twice daily, and patients with BMI ≥ 40 kg/m2 received enoxaparin 40 mg twice daily. The goal therapeutic range based on peak level was 0.2-0.4 IU/mL. The primary objective was time to goal peak aXa level after enoxaparin initiation. Secondary objectives include enoxaparin dosing regimen in milligrams and milligrams per kilogram, number of adjustments to reach goal level, rates of VTE, and rates of bleeding attributed to enoxaparin.

Results:

Ultimately, 635 patients met inclusion criteria. Median time to goal antiXa was 2 days (IQR 2-4) [Table 1]. Peak aXa levels were within the goal range for 43.2% of patients on the first check. Of the 66 patients with BMI ≥40 kg/m2, 14/66 (21.2%) were initially dosed below protocol and 20/66 (30.3%) of these patients met goal aXa at first check. Of the 569 patients with BMI <40 kg/m2, 535/569 (94.0%) were initially dosed according to protocol and 254/569 (44.6%) of these patients met goal antiXa at first check. Rates of VTE were similar for all patients, and the overall rate of bleeding was low.

Conclusion:

This study demonstrates the safety of a pharmacist-led enoxaparin dosing protocol based on low rates of bleeding events. The rate of VTE events was low despite less than half of patients achieving goal aXa level on first check.

References:

1. Walker CK et al. Ann Pharmacother 51:323-331, 2017.
2. Rogers FB et al. J Trauma 53:142-164, 2002.

Table:

	All patients, N= 635	BMI < 40 kg/m2, N= 569	BMI > 40 kg/m2, N= 66
Median time to goal aXa (days)[IQR]	2 [2-4]	2 [2-4]	3 [2-4]
AXa within goal at first check [%]	274/635 [43.2%]	254/569 [44.6%]	20/66 [30.3%]
Rate of VTE [%]	11/635 (1.73%)	10/569 [1.76%]	1/66 [1.51%]
Rate of bleeding [%]	4/635 (0.63%)	4/569 [0.70%]	0/66 [0.00%]

Outcome measures