



Southwestern States Residency Conference (SSRC) Abstract Submission 2020

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ABSTRACT

- **The abstract must contain a detailed description of the project or case and the importance of the report to pharmacy practice.**
- **Write content in paragraph form (no bullets).**
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Title: Evaluation of the argatroban infusion protocol for systemic anticoagulation in adults with possible heparin- induced thrombocytopenia.

Purpose: Argatroban is the preferred agent for anticoagulation in patients with heparin-induced thrombocytopenia. This evaluation was designed to identify ways to improve an argatroban protocol for patients with possible heparin-induced thrombocytopenia. By identifying appropriate initial doses based on specific patient characteristics we can ensure patients reach therapeutic aPTT within an appropriate time frame. The primary outcomes of this evaluation were to determine if the argatroban protocol for HIT cases led to subtherapeutic or supratherapeutic levels based on patients' aPTT scores and a delayed time to reach therapeutic aPTT of more than 24 hours.

Methods: Using the Cerner database, adult patients who received argatroban protocol for HIT careset were identified between July 4, 2013 and June 11, 2015. Data was collected through retrospective chart review. Patients included must be 18 years of age or older and received argatroban utilizing the argatroban protocol for HIT careset. Patients were excluded if they did not receive argatroban via protocol. The following data was collected: initial dose of argatroban, ICU status, argatroban start date/time, dose at first therapeutic aPTT, time to first therapeutic aPTT, baseline platelet count, baseline aPTT, aPTT at hours 3,6,9,12,24 after initiation of argatroban, argatroban dose at hours 3,6,9,12,24 after initiation, if a HIT panel was ordered, HIT panel threshold reported, 4-T Score and Child-Pugh score data points for calculation, major bleed, minor bleed. Once all data was collected, the argatroban protocol for HIT was evaluated based on the findings. Sample size was determined by inclusion timeframe, was not designed to target statistical power. Descriptive statistics were used to report continuous variable as means and standard deviations and categorical variables as percentages. A Chi-squared test was used for categorical variables. For all tests, $p \leq 0.05$ was considered significant.

Results: One hundred and twenty-seven patients were included in the analysis: fifty-one patients received hepatic dysfunction or critically-ill careset, twenty-three patients received the obese careset and fifty-three patients received the standard dosing careset. The average time to therapeutic aPTT was similar between all careset groups (mean 6.4 hours) with the standard dosing careset reaching therapeutic aPTT the fastest (mean 5.6 hours). The average aPTT at all measured intervals 3, 6, 9, 12 and 24 hours was therapeutic, within the 45-90 second range, for all careset groups. The dose when first therapeutic aPTT occurred was therapeutic for 93 percent of aPTT levels drawn at 3 hours for the hepatic/critically ill careset, however 20 of those values were not drawn within first 3 hours of drip initiation. For the obese careset group, 94 percent of doses were therapeutic at 3 hours with only 6 missed aPTT draws. The standard dosing careset group had 100 percent of doses within therapeutic aPTT range at 3 hours with only 7 missing lab draws for aPTTs. Nineteen patients included experienced acute thrombosis while receiving argatroban. Only five patients or four percent met criteria for major bleeding while eight patients or six percent experienced minor bleeding.

Conclusion: All three careset groups achieved therapeutic aPTT values within 6 hours of initiation without significantly increased risk of bleeding or thrombosis. More education will need to be provided to ensure appropriate timing and drawing of aPTT levels especially in critically ill patients as this was the group with the most missed aPTT levels.

Questions and concerns can be directed to ssrc@azpharmacy.org