

Detecting Anticoagulant Use Prior to Neuraxial Anesthesia: Analysis of Electronic Medical Record Search vs Summarized Report

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Introduction

- Spinal and perineural hematomas are serious complications associated with neuraxial anesthesia and deep plexus peripheral nerve blocks.
- Risk is increased in patients taking anticoagulants and/or antiplatelets
- Study aims to determine if providing relevant anticoagulant information in one EMR location improves accuracy in assessing the safety of neuraxial anesthesia and reduces the time required to find this information.

Material and Methods

- An anticoagulation summary report was created in Epic composed of medications containing specific pharmaceutical classes or subclasses.
- The report lists the following:
 - Anticoagulants received during the last 14 days of hospital admission
 - Anticoagulants taken 7 days prior to admission
 - Dates and times of medication administration
 - Pertinent lab values, PT, PTT, INR, PLT, and fibrinogen levels
- A testing environment was then created to simulate a standardized patient scheduled to receive spinal anesthesia after receiving a one-time dose of 600 mg clopidogrel 4 days before the planned procedure date
- Participants were randomized either to use the report or to use their traditional method of identifying anticoagulants.
- Outcomes
 - Primary: Determine if participants were able to identify the use of clopidogrel prior to determining spinal eligibility.
 - Secondary: Length of time required for chart review, confidence level in finding anticoagulant use, and whether participants would continue to use the report in their practice.

Figure 1: Anticoagulation Patient Summary Report

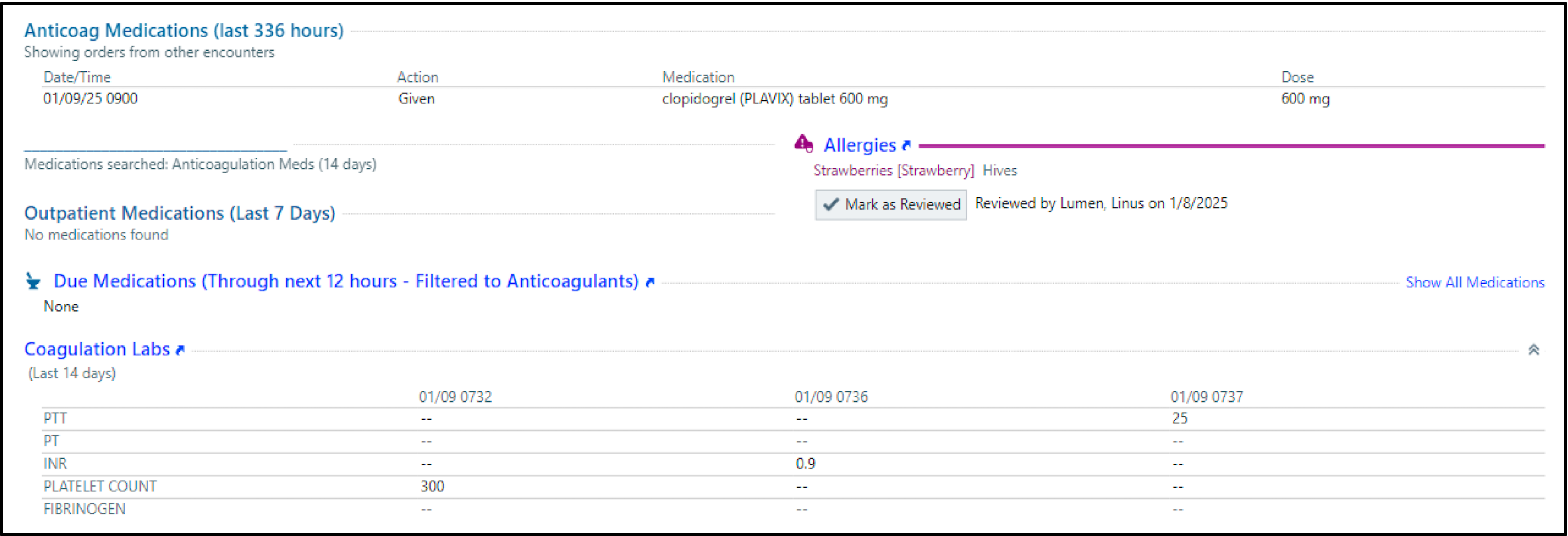


Figure 2: Primary and Secondary Outcomes



Results

- 40 anesthesiologists took part in the simulation
 - 20 attendings and 20 trainees
 - 10 participants from each group used the anticoagulation summary report and the remaining 10 used their traditional method.
- Overall accuracy in electing not to proceed with spinal anesthesia due to recent clopidogrel use was 90%.
- All participants who used the report correctly identified clopidogrel administration, while only 80% of participants who used their traditional method identified it (p<0.035).
- Those who used the report also identified clopidogrel more quickly (55.2s vs. 90.2s, p<0.001) and were more confident in their answers on a scale from 1-5, with 1 being uncertain and 5 being completely certain (4.75 vs 4, p<0.001).
- On a scale from 1-5, participants who used the report started with a “somewhat” level of confidence in their ability to find anticoagulation; however, they were “very” confident that they had found the anticoagulant after using the report (3.9 vs 4.8, p<0.005).
- All participants who used the report indicated that they would continue to use it in their practice.

Conclusion

- Use of the new report improved both accuracy and confidence in identifying anticoagulation, and improved the time required to identify anticoagulant use.
- A thorough review of medications with patients and staff is still recommended to ensure that an anticoagulant was not missed.