

Evidence-Based Practice (EBP) - E131

Poster

Abstract Title:

HEAD TRAUMA-ANTICOAG: Formal Activation Criteria Decreases Rapid Reversal Times

Authors:

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Background & Purpose:

Our community hospital did not have an effective way to formally identify the aging anticoagulated patient that presented with a head injury after a fall from same height. This lack of identification would cause a delay in the patient being initially seen, diagnostic and lab testing, and ultimately definitive treatment. The goal of this project was to decrease the time to treatment of the anticoagulated patient with a positive head bleed by implementing a new Trauma Activation Criteria and a Rapid Reversal Guideline. Pre-implementation data was compared to post implementation data.

Study/Project Design:

Compared 1 year of data before and after the implementation of new trauma criteria and reversal guideline.

Setting:

This project took place in the ED of a single community hospital, Level III ACS Verified Trauma Center.

Sample:

12 patients were in pre sample and 12 patients in the post sample. Both groups > 65 years, on warfarin and with a positive traumatic head bleed.

Procedures:

After pre-data was collected and analysed, we found that patients who were trauma activations had labs and CTs done more quickly than non-activated patients. We added a new activation category: HEAD TRAUMA-Anticoag (HTA) (pts not meeting Level 1, 2 or 3 criteria, who sustain a fall striking head and anticoagulated). Activation had no bearing on time to reversal so we implemented a new Rapid Reversal Guideline to decrease this time. The ED Nurses and providers as well as lab/Blood Bank and CT personnel all received education and training to the new processes. The data collected for pre and post groups: Type of activation; Time from arrival to lab draw; time from arrival to CT; Time from arrival to infusion of Vitamin K; and time from arrival to infusion of plasma.

Findings/Results:

Of the 12 patients in the pre guideline group only 2 were activated as traumas. The average time to lab and CT was 42 minutes and 53 minutes respectively. Pre group had time to Vitamin K and Plasma of 145 minutes and 196 minutes respectively. Of the 12 patients in the post guideline group 11 were activated as an HTA or higher. The average time to lab and CT was 12 minutes and 22 minutes respectively for a decrease of 71% for labs and 58% of CT. The post group had time to Vitamin K and Plasma of 79 minutes and 96 minutes respectively. The time to Vitamin K and Plasma was cut in half with the implementation of the Rapid Reversal Guidelines, 51% and 46% respectively. The first 2 patients in the post group had times similar to the pre group so re-education was done. After this re-education the times decreased dramatically. The averages of time to Vitamin K and Plasma are 68 minutes and 55 minutes for a decrease of 62% and 65% respectively.

Discussion/Conclusions/Implications:

Patients not receiving a formal activation had significantly longer times to lab and CT. Patients with trauma activation (not specific to anticoag), had shorter lab and CT times, but still had long times to Reversal in the pre-guideline group. The addition of Anticoag in the activation quickly ascertains what the patient needs: Labs, CT and exam. The creation of HTA has made early recognition of the at-risk patient standardized as well as the progression to the Rapid Reversal Guideline as warranted. Education to all disciplines has heightened awareness. This awareness continues as we now look to expand the guidelines to include four factor Prothrombin Complex Concentrates.