Warfarin Reversal in the Hip Fracture Population

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1 Background

- Hip fracture is the most common disabling injury and the third cause of death among older adults [3]
- As the elderly population rises, the global number of hip fractures is projected to exceed 7 million over the next 40 to 50 years [4]
- Up to 4% of patients with a hip fracture may be on warfarin at admission [1]
- Surgery for warfarinized patients is delayed considerably compared to their non-warfarinized peers thus extending their overall hospital stay and posing a greater risk for complications
- Clinical guidelines recommend immediate reparative surgery within 24-48 hours from hospital admission [6]

Why time matters?

24-48 hours to surgery is associated with:
- A lower risk of death [7]
- Lower rates of postoperative pneumonia [7]
- Lower rates of pressure sores among elderly patients with hip fractures [7]
- Improved 1 year survival post surgery [6]

>48 hours to surgery is associated with:
- Bedsores [6]
- Pneumonia [8]
- Urinary tract infections [8]
- Pulmonary embolism [8]
- Delirium [2]

- These findings indicate that reducing delays to surgery may minimize mortality and complications for hip fractured patients on warfarin.

2 Objectives

1) Streamline the process of acute hip fracture surgery for patients on Warfarin.
2) Decrease time to operating room by 50% → GOAL TIME = <48 hours.

3 Methods

The first aspect of our study is the development of a physiologically sound protocol for warfarin reversal in acute hip fracture. The aim of this protocol is to accelerate time to surgery for our population by beginning oral Vitamin K upon admission to the emergency department (ED) to correct patients’ INR (international normalized ratio) levels.

4 Expected Conclusions

We anticipate our findings to demonstrate that warfarinized individuals with acute hip fractures who were operated on within 24-48 hours of admission to the ED, would have better outcomes and less complications compared to warfarinized individuals whose surgery time after admission was greater than 48 hours.

5 Future Directions

1) Record any post-operative complications between timely surgeries vs delayed surgeries
2) Implement protocol at other hospitals to generate a greater sample size

6 References


Funding Source: The Helene Fuld Leadership Program for the Advancement of Patient Care Quality and Safety

3 Hip Fracture Warfarin Anticoagulation Reversal Protocol

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