

Guidelines Warfarin Reversal Protocol for Head trauma patient

I. SCOPE

Trauma Team Clinical Members

II. OBJECTIVE/PURPOSE

To provide guidelines for treatment of patients that present to Detroit Receiving Hospital with head trauma AND use of warfarin.

III. DEFINITIONS

None

IV. POLICY

In the presence of trauma and a history of **warfarin use**, patients will have the Glasgow Coma Scale (GCS) assessed, a STAT INR and a STAT head CT scan obtained. The GCS will determine which pathway should be followed for assessment, monitoring and **warfarin** reversal for the treatment of trauma patients suspected to have or who are at risk of developing traumatic brain injuries. If the patient has a heparin allergy, then FEIBA, another prothrombin complex concentrate which does not contain heparin, should be ordered instead of Kcentra, which does contain a small amount of heparin.

V. PROCEDURE AND/OR PROVISIONS

A. Trauma + warfarin: if GCS = 15, obtain head CT and INR.

1. If Head CT normal

- a) **If INR ≤ 1.5:** Consider to hold warfarin
- b) **If INR >1.5-3.0:** Hold warfarin, serial neuro. checks Q4hr, repeat INR in 6 hrs.
- c) **If INR > 3:** Hold warfarin, transfuse 2 units fresh frozen plasma (FFP) type specific, consider Vitamin K, serial neuro. checks q4hr, repeat INR in 6 hrs.

2. If Head CT abnormal

- a) Give Vitamin K 10 mg slow IVPB
- b) **If INR ≤ 1.5:** Hold warfarin, serial neuro. checks q1hr, repeat INR & head CT in 6hrs
- c) **If INR > 1.5:** Transfuse 4 units FFP type specific, repeat INR, consider Vitamin K, serial neuro. checks q 1hr, repeat INR & head CT in 6hrs.

OR if head injury is deemed potentially life threatening, transfuse 4-factor prothrombin complex concentrate (Kcentra) as follows:

- 1) If INR is 2 -< 4, Kcentra 25 units/kg, max 2500 units
- 2) If INR is 4 - 6, Kcentra 35 units/kg, max 3500 units
- 3) If INR is > 6, Kcentra 50 units/kg, max 5000 units
- 4) Repeat INR in 15-60 minutes after PCC (Kcentra) administration is complete and Q 4-6 hours for the next 24-48hr

- Additional FFP may be given depending on the level of INR in order to correct it to less than 2.

B. Trauma + warfarin: if GCS < 15, transfuse 2 Units FFP immediately

- 1. Obtain head CT and INR
- 2. Give Vitamin K 10 mg slow IVPB
- 3. **If INR ≤ 1.5:** Hold warfarin, serial neuro. checks Q1hr, repeat INR & head CT in 6hrs

4. **If INR >1.5-3:** Give 4 units FFP type specific, repeat INR, serial neuro. checks q1hr, repeat INR & head CT in 6hrs

5. **If INR >3** OR if patient is going to operating room OR if head injury is deemed potentially life

threatening, transfuse 4-factor prothrombin complex concentrate (Kcentra) as follows:

- a) If INR is 2 -< 4, Kcentra 25 units/kg, max 2500 units
 - b) If INR is 4 - 6, Kcentra 35 units/kg, max 3500 units
 - c) If INR is > 6, Kcentra 50 units/kg, max 5000 units
 - d) Repeat INR in 15-60 minutes after PCC (Kcentra) administration is complete and Q 4-6 hours for the next 24-48hr
- Additional FFP may be given depending on the level of INR, the goal <2. .

VI. REFERENCES

A. Kcentra package insert. CSL Behring February 2017.

Revised 11.24.2021 – at Trauma Systems Meeting
reviewed by Dr To and W. Mohamed 01/07/2024