**Anticoagulation Reversal: Dabigatran (Pradaxa®)**

**NOTE:** The following therapies have been tried, but outcomes do not support their use, and they are **not** recommended:
- Antifibrinolytics (aminocaproic acid, tranexamic acid)
- Recombinant factor VIIa (NovoSeven®)
- Prothrombin complex concentrate (PCC–Profilnine®)
- Frozen Fresh Plasma (FFP)

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**Bleeding on Dabigatran Therapy – Emergent Reversal**

**Obtain baseline labs – see page 2**

**Minor Bleeding**
(e.g., lacerations, post-dialysis bleeding, bleeding from a compressible site)
- Hold dabigatran until there is adequate hemostasis
- Consider silver nitrate cauterization as applicable

**Major Bleeding**
(e.g., active GI bleed, trauma, and uncontrollable epistaxis)
- Hold dabigatran until there is adequate hemostasis
- Oral activated charcoal if ingestion in last 2 hours
  - **Dose:** 1 g/kg of oral suspension – round to the nearest 25 grams
- Fluid replacement and hemodynamic support
- Topical thrombin as appropriate
- If fibrinogen is < 200 mg/dL give 2 pools cryoprecipitate
- If platelets are < 50 K/uL give platelets
- Consider idarucizumab (Praxbind®)*
  - **Dose:** 2.5 grams infused over 4 minutes x 2 doses for a total dose of 5 grams

**Life-Threatening Bleeding**
(e.g., GI hemorrhage with hemodynamic compromise, retropharyngeal or retroperitoneal bleeding, intracranial hemorrhage, major trauma)
- Hold dabigatran until there is adequate hemostasis
- Oral activated charcoal if ingestion in last 2 hours
  - **Dose:** 1 g/kg of oral suspension – round to the nearest 25 grams
- Fluid replacement and hemodynamic support
- Topical thrombin as appropriate
- If fibrinogen is < 200 mg/dL give 2 pools cryoprecipitate
- If platelets are < 50 K/uL give platelets
- Consider idarucizumab (Praxbind®)*
  - **Dose:** 2.5 grams infused over 4 minutes x 2 doses for a total dose of 5 grams

**Follow up with proper monitoring – see page 2**

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*Note: Idarucizumab (Praxbind®) may only be ordered by an attending physician.*
Baseline Labs

- Serum creatinine (chem-7)
- Ionized calcium (goal ionized of 4.6 – 5.3 mg/dL)
- CBC
- PTT
- TT
- Arterial or venous pH (goal pH > 7.25)
  - During the process of resuscitation, attempt to achieve goal of pH > 7.25 to facilitate the effectiveness of reversal agents.
- Fibrinogen
  - Fibrinogen should not be reduced as a result of dabigatran use; but in the event it is low, steps to address it should be taken.

Monitoring

- Repeat ionized calcium, arterial or venous pH, CBC, fibrinogen, and PTT 2 hours after each intervention
- Repeat at least every 6 hours x 24 hours and as indicated clinically
- A normal TT rules out presence of dabigatran

<table>
<thead>
<tr>
<th>Lab Test</th>
<th>Normal Range (seconds)</th>
<th>Turnaround Time (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTT</td>
<td>24 – 34</td>
<td>45 - 60</td>
</tr>
<tr>
<td>TT</td>
<td>13.0 – 20.0</td>
<td>30 – 60</td>
</tr>
</tbody>
</table>

Consults

- Surgery consult as needed
- Consider Hematology consult for continued bleeding

References

- Product Information: PRADAXA(R) oral capsules, dabigatran etexilate mesylate oral capsules. Boehringer Ingelheim Pharmaceuticals (per manufacturer), Ridgefield, CT, 2015.
- Product Information: PRAXBIND(R) intravenous injection, idarucizumab intravenous injection. Boehringer Ingelheim Pharmaceuticals (per FDA), Ridgefield, CT, 2015.

Orderset

- OSU IP GEN: DABIGATRAN ANTICOAGULANT REVERSAL (2834)

Quality Measures

- Mortality rate
- Patient received necessary consults
  - Surgery
  - Hematology
- Percent of patients who receives non-recommended therapies:
  - Antifibrinolytic therapy
  - Recombinant factor VIIa (NovoSeven®)
  - PCC (Profilnine®)
  - FFP
- Hospital length of stay (days)
- Rate of thrombosis in patients who received prothrombotic agent
  - Deep vein thrombosis (DVT)
  - Stroke
  - Pulmonary embolism (PE)
  - Myocardial infarction (MI)

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Guideline Approved

Disclaimer: Clinical practice guidelines and algorithms at The Ohio State University Wexner Medical Center (OSUWMC) are standards that are intended to provide general guidance to clinicians. Patient choice and clinician judgment must remain central to the selection of diagnostic tests and therapy. OSUWMC’s guidelines and algorithms are reviewed periodically for consistency with new evidence; however, new developments may not be represented.