Clinical Practice Guideline:
What is the role of reversal agents in the management of ED patients with dabigatran-associated hemorrhage?

References and Literature Grading


Article Grading

Search terms: dabigatran reversal
Tier 1: 17 (3 relevant)
Tier 2: 2
Tier 3: 4
Tier 4: 7
Tier 5: 161

Systematic Reviews (Tier 1)


RCTs (Tier 2)


Tier 3


Tier 4


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Search terms: dabigatran bleeding

Tier 1: 216
Tier 2: 20 (1 relevant, already included in other search)
Tier 3: 45 (no additional relevant articles)
Tier 4: 56 (2 additional relevant articles, already included in other search)

<table>
<thead>
<tr>
<th>Publications</th>
<th>Grade</th>
<th>Quality</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yogaratnam D, et al. Ann Pharmacother 2016.</td>
<td>F</td>
<td>Good</td>
<td>This is a review of the key trials that let to idarucizumab's FDA approval. The authors nicely describe their methods but they did not perform a meta-analysis.</td>
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<tr>
<td>Author(s)</td>
<td>Journal</td>
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<td>Thibault N, et al.</td>
<td>Am J Ther 2016.</td>
<td>F</td>
<td>Adequate</td>
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<td>Frontera JA, et al.</td>
<td>Neurocrit Care 2016.</td>
<td>F</td>
<td>Good</td>
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<td>Glund S, et al.</td>
<td>Lancet 2015.</td>
<td>B</td>
<td>Outstanding</td>
</tr>
<tr>
<td>Eerenberg ES, et al.</td>
<td>Circulation 2011.</td>
<td>B</td>
<td>Outstanding</td>
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<td>Reference</td>
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<td>Description</td>
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<td>Marlu R, et al. Thromb Haemost 2012.</td>
<td>Adequate</td>
<td>Measured laboratory parameters of dabigatran reversal in healthy volunteers after a one-time oral dose. Reversal of anticoagulation was tested in vitro using prothrombin complex concentrate (PCC), rFVIIa or FEIBA® at various concentrations. Although PCC increased ETP-AUC, only rFVIIa and FEIBA corrected the altered lag-time.</td>
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<td>Pollack CV, et al. NEJM 2015.</td>
<td>Poor</td>
<td>Conducted in patients needing reversal but lacked a control group. Idarucizumab seems to reverse laboratory markers of anticoagulation from dabigatran rapidly and completely, including dilute thrombin time and ecarin clotting time. Median investigator-reported time to cessation of bleeding was 11.4 hours. 21 of the 90 patients in the NEJM study had 'serious adverse effects' including thrombotic events.</td>
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<tr>
<td>Arellano-Rodrigo E, et al. Transfus Med Rev 2015.</td>
<td>Adequate</td>
<td>Healthy volunteers received dabigatran 150 mg q 12 hours X 5 days. Concentrations of rFVIIa (Novoseven; NovoNordisk, Bagsvaerd, Denmark) equivalent to 270 µg/kg, aPCC (Feiba; BaxterAG, Vienna, Austria) at 75 U/kg, and the 4-factor PCC (Beriplex; CSL Behring GmbH, Marburg, Germany) at 50 IU/kg were spiked into blood samples. Dabigatran treatment significantly prolonged both PT and aPTT in blood samples drawn 2 to 3 hours after the last intake. Although rFVIIa or aPCC partially improved all the parameters, PCC did not modify the prolonged aPTT observed after dabigatran treatment.</td>
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