Dabigatran

- The Concomitant Therapy of Direct Oral Anticoagulants with Amiodarone in Atrial Fibrillation: A Meta-analysis
- Thrombosis and Coagulopathy
- Effect of heparins, DOACs, and FXII/FXI inhibitors on catheter-initiated thrombin generation in PRP: an in vitro study
- A Novel Fibrinogen Assay Using Recombinant Batroxobin and Carboxymethyl Chitosan: Carboxymethyl Chitosan Stimulates the Enzymatic Activity of Recombinant Batroxobin
- Beyond dabigatran: recognizing direct oral anticoagulants as a cause of exfoliative esophagitis
- Administration of decapsulated dabigatran via nasogastric tube: A case report
- Effectiveness and safety of rivaroxaban in patients with atrial fibrillation and heart failure in clinical practice: an indirect comparison of national and international registries
- Diagnostics and management of direct oral anticoagulants-induced bleeding

Dabigatran is a direct thrombin inhibitor,oral anticoagulants of the non vitamin K antagonist group.

It is a direct-acting medication that are selective for one specific coagulation factor, either thrombin (IIa) or activated factor X (Xa).

Dabigatran a direct inhibitor of factor IIa and rivaroxaban, apixaban and edoxaban (direct inhibitors of factor Xa), have been used for at least 5 years but possibly 10 years. Unlike traditional vitamin K antagonists (VKAs), which prevent the coagulation process by suppressing the synthesis of vitamin K-dependent factors, NOACs directly inhibit key proteases (factors IIa and Xa). The important indications of these drugs are the prevention and treatment of deep vein thrombosis and pulmonary embolisms, and the prevention of atherothrombotic events in the heart and brain of patients with acute coronary syndrome and atrial fibrillation. They are not fixed, and dose-various strengths are available. Most studies have reported that more advantages than disadvantages for NOACs when compared with VKAs, with the most important advantages of NOACs including safety issues (ie, a lower incidence of major bleeding), convenience of use, minor drug and food interactions, a wide therapeutic window, and no need for laboratory monitoring. Nonetheless, there are some conditions for which VKAs remain the drug of choice. Based on the available data, we can conclude that NOACs have greater advantages and fewer disadvantages compared with VKAs. New studies are required to further assess the efficacy of NOACs [1)].

Dabigatran (Pradaxa in Australia, Canada, Europe and USA, Prazaxa in Japan) is an oral anticoagulation from the class of the direct thrombin inhibitors.

It was developed by the pharmaceutical company Boehringer Ingelheim.

Monitoring

The dilute thrombin time and ecarin-based assays are able to quantify dabigatran across a broad range of concentrations, but are not widely available.

A normal thrombin time excludes clinically relevant levels and a normal activated partial thromboplastin time probably excludes excess levels of dabigatran.

Indications

Dabigatran Indications.

Complications

Dabigatran induces fewer hemorrhagic complications compared with warfarin. However, the natural history of dabigatran-related ICH remains unclear.

A experimental study of a rat ICH model indicates that dabigatran-related ICH may not increase the risk of delayed hematoma expansion [2)].

Dabigatran-associated spontaneous acute cervical epidural hematoma [3)].

Reversal

Dabigatran reversal.

Case reports

An 86-year-old male taking dabigatran for atrial fibrillation, acutely presented with the spontaneous onset of neck pain and quadriparesis. When the MRI demonstrated a C2-T2 spinal epidural hematoma, the patient was given the reversal agent idarucizumab. Due to his attendant major comorbidities, he was managed nonoperatively. Over the next 7 days, the patient's neurological deficits resolved, and within 2 weeks, he had regained normal neurological function.

In this case, a C2-T2 epidural cervical hematoma attributed to dabigatran that was responsible for an acute, spontaneous quadriparesis was successfully treated with the reversal agent idarucizumab without surgical intervention being warranted [4)].

An 82-year-old woman treated with dabigatran for atrial fibrillation developed acute focal weakness. This led to activation of emergency medical services and assessment in the mobile stroke unit (MSU).

Diagnosis: Computed tomography of the brain performed in the MSU revealed an acute subdural hematoma.

Interventions: The patient was treated with Idarucizumab in the MSU.

Outcomes: The subdural hematoma was treated with a burr hole evacuation and the patient was discharged to a rehabilitation facility without residual focal neurological deficits.

Lessons: Idarucizumab can be used safely and effectively to treat dabigatran-associated intracranial hemorrhage in the prehospital setting [5)].

1)
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