



## LECTURE

# Reversal of anticoagulation of NOACs in patients with acute stroke

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### Abstract

Management of patients taking Novel Oral Anticoagulants (NOACs) and acute stroke is challenging.

The risk of intracranial haemorrhage (ICH) is reduced in patients treated with NOACs compared with patients treated with vitamin K antagonists (VKAs). However, the prognosis of ICH associated with anticoagulation is always poor, with high mortality rate, especially in patients with haematoma expansion. The occurrence of ICH requires prompt interruption of anticoagulation, regardless of the underlying thromboembolic risk of the patient. The coagulation status of patients receiving NOACs with ICH must be evaluated and corrected as soon as possible. The current treatment of an acute ICH occurring during treatment with factor Xa inhibitors (FXaI) – apixaban, edoxaban, rivaroxaban - is based on experience with ICH associated to VKAs: administration of coagulation factors concentrates, namely as prothrombin complex concentrate (PCC), activated PCC, activated factor VII. However, the efficacy and safety of coagulation factors are not well documented. Andexanet alfa, an FXaI reversal agent, is currently being evaluated in patients with acute major bleeding, including ICH.

In patients treated with dabigatran, idarucizumab, a specific reversal agent for dabigatran, is recommended as first line therapy. If not available, coagulation factor concentrates should be administered. Haemodialysis can also be considered in patients with dabigatran-associated ICH and renal insufficiency, as a rescue therapy.

If the last intake of NOAC was less than 6 hours ago, oral activated charcoal can be given to reduce absorption.

In patients with acute ischemic stroke (AIS), systemic thrombolysis is the most effective medical therapy, though associated to a significant increase in ICH rate. Prior anticoagulation is a contra-indication for thrombolysis. The last recommendation of AHA states that thrombolysis should not be administered to patients who take NOACs, unless sensitive tests are normal and the patient took the last dose >48 hours prior. However, since the approval of idarucizumab, several reports have been published about its use in patients taking dabigatran with AIS before systemic thrombolysis and the results are very promising. Mechanical thrombectomy can be an option for some anticoagulated patients with AIS.

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