

Marked INR Elevation and MRI-Negative Stroke in a Patient Receiving Apixaban for Atrial Fibrillation

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Abstract

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Abstract

Introduction: Direct oral anticoagulants (DOACs) are used for stroke prevention in atrial fibrillation and do not require routine coagulation monitoring. Standard coagulation assays like the international normalized ratio (INR) are used as a general measure of coagulation and to titrate therapy with medications like warfarin but are unreliable for titrating DOACs. Mild INR elevation from DOAC therapy is possible, but uncommon.

Case Description: We report a 76-year-old man with stage III chronic kidney disease and atrial fibrillation managed with amiodarone who was receiving apixaban for stroke prevention. He presented with acute focal neurologic deficits consistent with ischemic stroke. Neuroimaging during his evaluation repeatedly failed to demonstrate acute infarction and his neurologic deficits persisted beyond the window for transient ischemic attack. During evaluation for possible thrombolytic therapy, the patient was found to have a markedly elevated INR of 4.4, prompting an evaluation for secondary causes of coagulopathy.

Discussion: INR elevation was ultimately attributed to increased apixaban exposure from impaired renal clearance and metabolic interaction with amiodarone. Supratherapeutic anti-factor Xa levels persisted despite several days without DOAC administration, exceeding its expected pharmacokinetic clearance. Multidisciplinary concern for drug accumulation and excessive anticoagulation prompted apixaban dose reduction to 2.5 mg twice daily.

Conclusion: This case illustrates the need for careful coagulopathic workup in a patient who suffers an ischemic stroke despite marked anticoagulation where no such INR elevation should exist. The limitations of standard coagulation assays in patients receiving factor Xa inhibitors also underscore the importance of individualized and multidisciplinary anticoagulation management and consideration of reduced anticoagulation dosing even when patients do not meet conventional criteria.