Oral anticoagulant management for stroke prevention in patients with atrial fibrillation and severe renal dysfunction

Slobodan Obradović[1,2], Zorica Mladenović[1,2], Nataša Živković[1]

[1] Clinic for Cardiology and Emergency Internal Medicine, Military Medical Academy, Belgrade, [2]

School of Medicine, University of Defense, Belgrade

Direct oral anticoagulants replaced vitamin K antagonist for the stroke prevention in almost all patients with atrial fibrillation except in patients with grade V renal failure and patients on dialysis. All of the DOACs are metabolized partly by kidneys. Vitamin K antagonists are used for the stroke prevention in patients with severe renal failure and on-dialysis. The use of vitamin K antagonists in patients with preterminal renal failure can accelerate renal calcification and even decline renal function. In the published meta-analysis of 11 observational studies with patients with AF and terminal renal failure, warfarin did not decrease stroke and mortality, but increased a major bleeding. Increase use of apixaban for the stroke prevention in AF patients with end stage kidney disease, was associated to less stroke, mortality and major bleeding compare to warfarin. Doses of apixaban 2.5 mg BID, rivaroxaban 10 mg OD and edoxaban 15 mg OD, had a similar kinetic as classical doses in patients with normal renal function. A physician who deal with these patients must know pharmacokinetic characteristics of various anticoagulation drugs . The availability of antidote for anti Xa oral anticoagulant drugs can promote the use of DOAC. When we choose the anticoagulation drag for patient with pre-terminal renal failure we must repeatedly measure creatinine clearance. We must educate patients about circumstances which can promote acute renal. We also need to know that any combination of anticoagulant drags with antiplatelet drags are more dangerous in patients with renal failure, than in patients with normal kidney function.

Key words: stroke, end stage kidney disease, direct oral anticoagulants, vitamin K antagonists