DOAC Dosing for Atrial Fibrillation (AFib)

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PROBLEM

- ✖ Inappropriate dosing of direct oral anticoagulants (DOACs) is not uncommon in treating AFib patients.
- ✖ Nearly 60% of reduced-dose DOAC regimens do not follow Food and Drug Administration (FDA) recommendations.
- ✖ Inappropriate dosing may be associated with increased risk for cardiovascular hospitalization and/or adverse events like bleeding and all-cause mortality.
- ✖ Underdosing of DOACs may increase stroke risk, while not reducing rates of major bleeding.

SOLUTION

When prescribing DOACs for AFib patients, clinicians should adjust DOAC dose based on FDA prescribing guides summarized in Treatment Table.

Treatment Table: DOAC Dosing Recommendations in AFib

	Apixaban	Dabigatran	Edoxaban	Rivaroxaban
Usual Dose	5mg BID	150mg BID	60mg daily (CI if CrCl ≥95 mL/min)*	20mg daily with food
Reduced Dose	2.5mg BID	75mg BID	30mg daily	15mg daily with food
Indications for Reduction	1. If 2 of 3 factors present: Age ≥80 years SCr ≥1.5 mg/dL Weight ≤60 kg 2. Coadministered with combined P-gp and strong CYP3A4 inhibitors (e.g., ketoconazole, itraconazole, ritonavir)	CrCl 15-30 mL/min OR, CrCl 30-50 mL/min with concomitant dronedarone or ketoconazole	CrCl 15-50 mL/min	CrCl ≤50 mL/min
Comments	Those with SCr >2.5 or CrCl <25 mL/min excluded from ARISTOTLE trial†	Those with CrCl <30 mL/min excluded from RE-LY trial†	Those with CrCl <30 mL/min excluded from ENGAGE AF-TIMI 48 trial†	Those with CrCl <30 mL/min excluded from ROCKET-AF trial†
	Consult package inserts for specific use/dosing recommendations with concomitant CYP3A4 and/or P-gp inducers or inhibitors. There are additional drug interactions in which DOACs should be avoided.			

BID: twice daily; SCr: actual serum creatinine; P-gp: P-glycoprotein; CYP3A4: cytochrome P450 3A4; CrCl: creatinine clearance calculated with Cockcroft-Gault equation using actual body weight and actual SCr; CI: contraindicated.
* Contraindicated if CrCl > 95 mL/min due to increased ischemic stroke risk compared to warfarin.
† Use in these situations based on kinetic and dynamic modeling rather than clinical outcomes data.

Prevent Potential Errors

- ✔ Implement functional hard-stop drug alerts during order entry in electronic medical record.
- ✔ Establish an anticoagulant management service program.
- ✔ Adopt continuous education programs for all providers on proper DOAC dosing strategies.
- ✔ Create pocket cards for a quick reference on DOAC prescribing.

To download the infographic and see citations visit
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