

VCMC Clinical Practice Guideline

Management of Bleeding Associated with Target-Specific Oral Anticoagulants

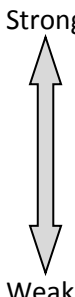
The contents of this clinical practice guideline are to be used as a guide. Healthcare professionals should use sound clinical judgement and individualize patient care. This CPG is not meant to be a replacement for training, experience, CME or studying the latest literature and drug information.

No antidotes currently exist for target-specific oral anticoagulants. Pharmacologic reversal of target-specific oral anticoagulant requires enough blood factors to overwhelm the effects of the drug. The following guideline is based on limited and theoretical evidence (i.e. animal studies, small clinical studies, case reports) and is subject to change. The risks and benefits of blood factors for each individual must be carefully weighed as thrombosis may occur.

Management of Bleeding: See Flowsheet

Monitoring of Target-Specific Oral Anticoagulants

The following hematologic tests are recommended when monitoring is desired:

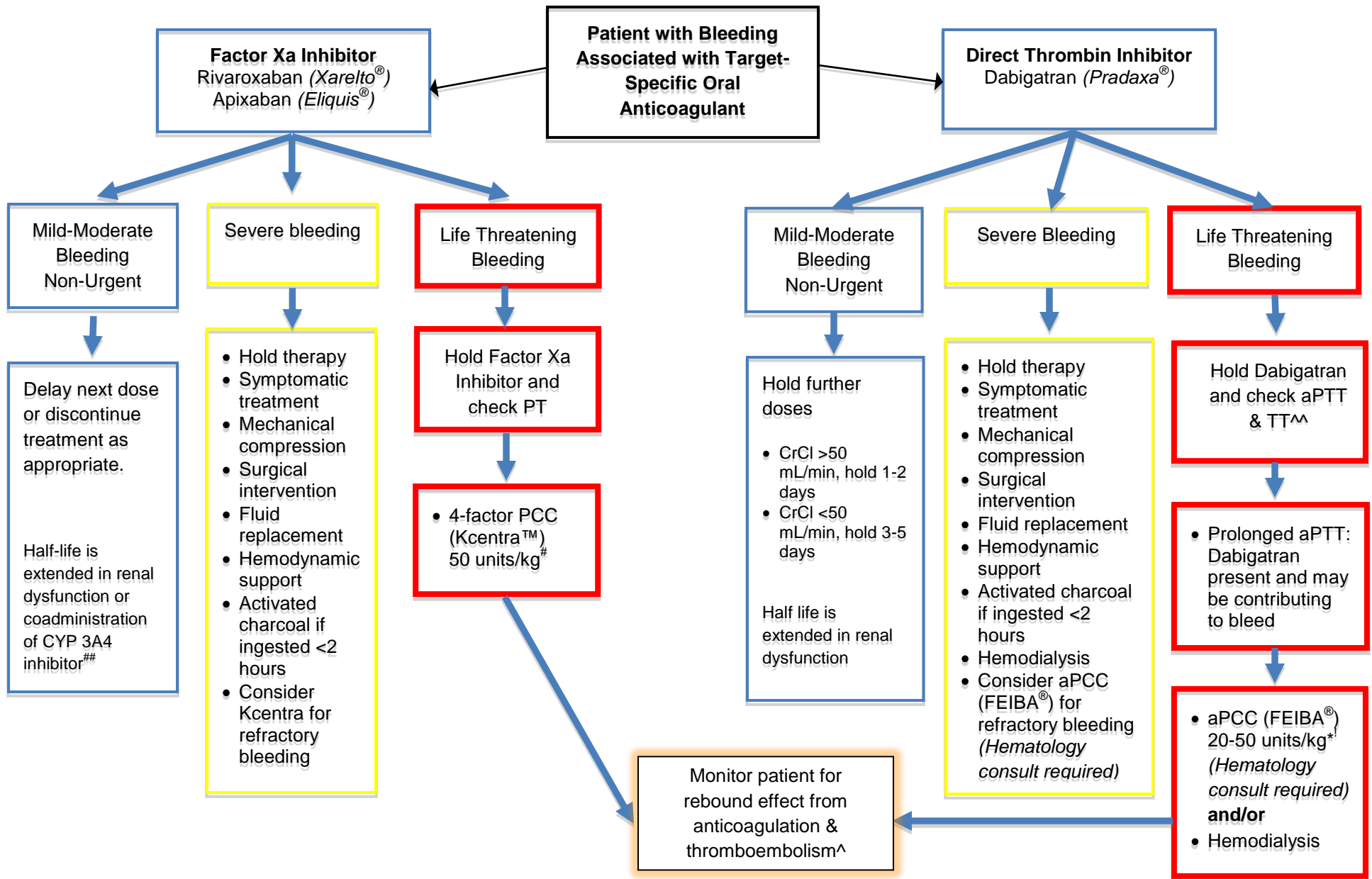
Usefulness of LabTest	Dabigatran (<i>Pradaxa</i> ®)	Rivaroxaban (<i>Xarelto</i> ®)	Apixaban (<i>Eliquis</i> ®)
	Ecarin Clotting Time (ECT)	Chromogenic anti-Xa	Chromogenic anti-Xa
	Thrombin Time (TT)	PT	PT
	aPTT	aPTT	aPTT
	PT/INR		

References:

1. Peacock WF, Gearhart MM, Mills RM. Emergency management of bleeding associated with old and new oral anticoagulants. *Clin Cardiol* 2012; 35:730-737.
2. Kalus JS. Pharmacologic interventions for reversing the effects of oral anticoagulants. *Am J Health-Syst Pharm* 2013; 70 (Suppl 1): S12-S21.
3. Dager WE. Developing a management plan for oral anticoagulant reversal. *Am J Health-Syst Pharm* 2013; 70 (Suppl 1): S21-S31.
4. Palladine M, Thomson L, Swift B et al. Implementing the new oral anticoagulants into the hospital formulary. *Am J Hematol* 2012; 87 (Suppl 1): S127-S132.
5. Dager WE, Gosselin RC, Roberts J. Reversing dabigatran in life-threatening bleeding occurring during cardiac ablation with FEIBA®. *Crit Care Med* 2011; 39:243. Abstract 867.
6. Eerenberg ES, Kamphuisen PW, Sijkens MK et al. Reversal of rivaroxaban and dabigatran by prothrombin complex concentrate: a randomized, placebo-controlled, crossover study in healthy subjects. *Circulation* 2011; 124:1573-1579.
7. Stangier J, Rathgen K, Stahle H et al. Influence of renal impairment on the pharmacokinetics and pharmacodynamics of oral dabigatran etexilate: an open-label, parallel-group, single-centre study. *Clin Pharmacokinet* 2010; 49: 259-68.

Management of Bleeding Associated with Target-Specific Oral Anticoagulants Flowsheet

Note: No antidotes currently exist. This flowsheet is based on limited data and is subject to change as more information becomes available.



*aPCC reverses the effect of dabigatran on hemostatic parameters but had no effect on coagulation assays^{1,5,6}

[^] If half-life of infused clotting factor is shorter than that of the anticoagulant, a rebound in the intensity of the anticoagulation can occur⁵

^{^^} TT not a reliable measure of the degree of hemostasis but suggests that dabigatran remains active in system⁵

[!] Potential for hypercoagulopathy concern; use lowest dose necessary⁵

[#] 50 units/kg of 4-factor PCC caused an immediate and complete reversal⁵

^{###} Concomitant use with drugs that are cytochrome P450 3A4 inhibitors increases in drug exposure¹