Pharmacist's Letter
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Guide Peri-Op Management of Direct Oral Anticoagulants

You'll be asked **how to manage direct oral anticoagulants (DOACs) around procedures or surgery.**

Collaborate with prescribers...and consider these rules of thumb.

Holding. Stop and restart based on procedure and patient risks.

Generally recommend holding DOACs 1 day before procedures with low bleeding risk, such as colonoscopy or upper endoscopy...since these may involve biopsy or polyp removal.

Typically advise holding DOACs for 2 days before procedures with high bleeding risk, such as abdominal or vascular surgery.

Don't be surprised if some anesthesiologists use a more conservative approach with regional anesthesia...such as holding for 3 days or more.

And consider other factors...such as kidney function.

For example, if CrCl is below 50 mL/min, recommend holding dabigatran (*Pradaxa*) for 2 days before low-bleeding-risk procedures...or 4 days before high-bleeding-risk procedures. Dabigatran relies on renal clearance more than other DOACs.

Usually advise restarting DOACs at least 1 day after low-bleeding-risk procedures...or 2 to 3 days after high-bleeding-risk surgeries.

Keep in mind, it's often okay to continue DOACs for procedures with minimal bleeding risk...such as tooth extraction or skin biopsy.

In these cases, recommend delaying DOACs on the day of surgery until 4 to 6 hours post-op. This may mean skipping the morning dose of twice-daily DOACs.

Bridging. Don't routinely recommend bridging with an injectable anticoagulant (enoxaparin, etc) when a DOAC is held. Risk of bleeding seems to outweigh any benefit...plus DOACs work quickly when resumed.

Reversing. Explain that peri-op DOAC reversal should be reserved for life-threatening emergencies.

Andexanet alfa (*Andexxa*) is a specific reversal agent for factor Xa inhibitors, such as apixaban (*Eliquis*) or rivaroxaban (*Xarelto*). But data are limited...and andexanet alfa costs up to $23,000/dose.

To reverse factor Xa inhibitors, expect many hospitals to use 4-factor prothrombin complex concentrate (*Kcentra*, *Balfaxar*). It costs about $6,000 for a fixed dose of 2,000 units.

If dabigatran reversal is required, anticipate that idarucizumab (*Praxbind*) will be used. It corrects coagulation labs prior to emergent surgery...but outcomes data are limited. It costs $4,000/dose.

Review our resource, *Peri-Op Management of Chronic Meds*, for guidance about managing warfarin, and more.

Key References:

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