

Strategies for Assessing & Managing DOAC-Related Bleeding

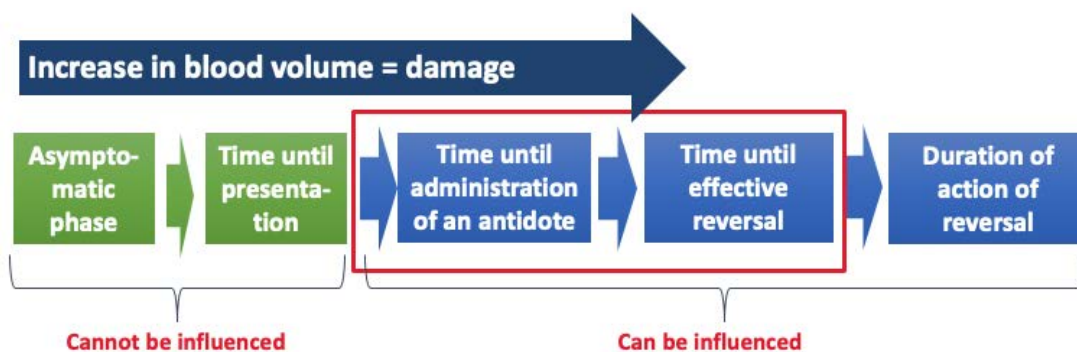
COMPANION GUIDE

Initiating DOAC Reversal Agents

Patient Case: DOAC Reversal With Atrial Fibrillation and Intracerebral Hemorrhage (ICH)

- 73-year-old female admitted to ER after a fall with hip fracture, small head laceration
- Medical history includes Afib and stents for peripheral arterial occlusive disease (pAOD)
- Medications include rivaroxaban (last intake ~6 hours ago) and acetylsalicylic acid
- Neurological deterioration observed in ER

Time-critical Problems Regarding Reversal of Anticoagulation in ICH



Critical aspects under time pressure:

- Is DOAC the cause of the present ICH?
- Other reasons for ICH equally or more likely?
- Availability of andexanet alfa reversal?
- Alternatives for andexanet alfa reversal?
- Contraindication for andexanet alfa reversal?

DOAC Type? Dosage? Last intake? Still relevant plasma levels?

Antiplatelets? Hypertension? Ruptured Aneurysm?

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- Although there are no RCT data, multiple RWE comparisons show advantages of andexanet alfa over PCC with regard to effectiveness for treating ICH and mortality¹⁻⁸

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Curveball #1

- What if the exact dosage and time of last intake of DOAC were unknown?
- Laboratory values and related considerations

- Hb 5.2 mmol/l (normal > 9.8 mmol/l)

- INR 2.4

- aPTT normal



High DOAC levels can impact global tests such as PT, INR, or aPTT (if test assays are DOAC sensitive!)

- d-Dimer 890 ng/ml (ULN 501 ng/ml)

- Creatinine 132 µmol/l (GFR 37 ml/min)



CKD prolongs DOAC half lives!

- Liver enzymes normal

- Chromogenic aXa assay for rivaroxaban



In-house available 24/7 but turnaround time is 45 minutes

- **Recommendation:** immediate reversal with andexanet alfa

Curveball #2

- Immediate indication for neurosurgical operation
- RBC transfusions due to anemia/blood loss in the pelvic region (2 EC)
- PCC: 4,000 IU (~60 IU/kg body weight) early after arrival in ER for blood loss coagulopathy (INR 2.4)
- **Recommendation:** do not reverse DOAC with andexanet alfa after PCC infusion due to lack of relevant safety and efficacy data^{9,10}

Key Takeaways

- DOAC reversal in ICH is an emergency decision: “time is brain”
- DOACs can impact INR → may help to identify relevant DOAC levels in the absence of specific plasma levels
- The impact on INR does NOT correlate with the anticoagulation effect (false positive values, but also false negative = normal values are possible)¹¹
- If DOAC antidote is available and administration is considered, PCC should not be used before a specific antidote

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References

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