## **CONCISE COMMENTARY**



## Concise Commentary: Whether and When to Resume Anticoagulation After Gastrointestinal Bleeding

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The timing of resuming oral anticoagulants after gastro-intestinal bleeding (GIB) is still controversial in clinical practice due to the lack of evidence-based guideline recommendations. In this issue of the *Digestive Diseases and Sciences*, Tapaskar et al. [1], in a meta-analysis, examined the risks of recurrent GIB, thromboembolism, and mortality after resuming oral anticoagulants following GIB. Their study found that anticoagulant resumption following GIB was significantly associated with reduction in both thromboembolism and all-cause mortality event rates compared with those who did not resume anticoagulants. Nevertheless, resumption of anticoagulants was also associated with a significant increase in recurrent GIB.

Compared with previously published meta-analyses, the current meta-analysis included several studies using direct oral anticoagulants (DOAC), including 7 additional studies in order to increase the sample size of the meta-analysis [2]. Yet, the heterogeneity of the included studies reveals the need for further studies of more homogenous study designs based on the following factors: source of GIB (upper vs. lower GI bleeding), oral anticoagulant selection (DOAC vs. vitamin K antagonists [VKA]), and the indication for oral anticoagulants (e.g., venous thromboembolism vs. atrial fibrillation vs. mechanical valve replacement).

This meta-analysis and other literature sufficiently answered the question as to whether or not anticoagulation should be resumed, but did not answer the question as to when to restart anticoagulants after GIB. Although this meta-analysis systematically reviewed the included studies and suggested the resumption of oral anticoagulants between 2 and 6 weeks from initial discharge or index GIB, this statement should be applied with caution, since this opinion is

not derived from meta-analysis results but from a non-structured systematic review that was not subject to formal statistical analysis. Furthermore, the majority of data were from patients treated with VKA with the exception of one DOAC study. The quicker onset of DOAC needs to be considered when clinicians apply these VKA resumption data after GIB to patients resuming DOAC, since DOAC resumption timing may need to be delayed longer in comparison with the timing of warfarin resumption. A larger prospective DOAC or VKA study comparing early versus late resumption of oral anticoagulants after the specified upper or lower GIB would be ideal to answer the optimal timing of oral anticoagulant resumption.

## **Compliance with Ethical Standards**

**Conflict of interest** The author has no conflict of interest to disclose.

## References

- Tapaskar N, Pang A, Werner DA, Sengupta N. Resuming anticoagulation following hospitalization for gastrointestinal bleeding is associated with reduced thromboembolic events and improved mortality: results from a systematic review and meta-analysis. *Dig Dis Sci.* 2020. https://doi.org/10.1007/s10620-020-06248-9.
- Chai-Adisaksopha C, Hillis C, Monreal M, Witt DM, Crowther M. Thromboembolic events, recurrent bleeding and mortality after resuming anticoagulant following gastrointestinal bleeding. A meta-analysis. *Thromb Haemost*. 2015;114:819–825.

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