

How to Optimize the Administration of Low-Dose Non-vitamin K Antagonist Oral Anticoagulants in Everyday Practice?

To the Editor,

In a systemic review of randomized controlled trials and cohort studies on oral anticoagulation in atrial fibrillation (AF) patients published by Li et al¹ in the latest issue of the *Anatolian Journal of Cardiology*, emphasis was placed on a clinical value of low-dose non-vitamin K antagonist oral anticoagulants (NOACs) versus both standard-dose NOACs and warfarin in Asian patients. The authors demonstrated that the efficacy and safety of low-dose NOACs are similar to those observed on standard-dose NOACs, with superiority when compared with warfarin.¹ Higher mortality in patients receiving low-dose NOACs is largely driven by more advanced age (5 years) compared to the 2 other groups reported in cohort studies. Most likely a relatively lower body mass (average body mass index in the included studies, around 24 kg/m²) appears to be the main determinant of such therapeutic decisions in many AF patients from Asia.

From a practical point of view, the question arises as who could benefit from low-dose NOACs, apart from those in whom such regimen is recommended. In table S7, several comorbidities were analyzed in relation to clinical outcomes in low-dose versus standard-dose NOACs. It would be of interest to show whether the very elderly patients have acceptable rates of thromboembolism and bleeding events in both NOACs groups in this meta-analysis, given the common use of low-dose regimens in older patients in whom both lower weights and impaired renal function are frequently observed.² The same holds true for AF patients with liver cirrhosis.³

Another aspect of the off-label use of low-dose NOACs in subjects at an extremely high bleeding risk is to identify individuals in whom such regimens could be beneficial. To optimize therapy when non-standard-dose NOACs are used based on the physician's experience or minor, though unacceptable bleeding complications, several centers used measurements of the NOAC anticoagulant activity.⁴ Were any subgroups with plasma levels of NOACs available in the included studies? The value of such an approach is still controversial and the authors' opinions would be valuable.

Last but not least, as mentioned in the Study Limitations, any data on specific low-dose or standard-dose NOACs would be interesting, since apixaban appears to have the best safety profile, in particular, in terms of gastrointestinal bleeding.⁵ Did the authors observe any differences among NOACs in their meta-analysis despite a relatively low number of patients in each subgroup treated with a given direct anticoagulant?

In real-life settings, there are many AF patients who do not tolerate standard-dose NOACs largely due to bleeding risk and who are not eligible for left atrial appendage closure. Therefore, decisions as to whether low-dose NOACs should be administered are challenging, and further not only secondary but also primary studies are needed to clarify this disturbing dilemma.

LETTER TO THE EDITOR

Anetta Undas ^{1,2}

¹Department of Thromboembolic Diseases, Institute of Cardiology, Jagiellonian University Medical College, Kraków, Poland

²Center for Research and Innovative Technology John Paul II Hospital, Kraków, Poland

Corresponding author:

Anetta Undas
✉ mmundas@cyf-kr.edu.pl

Cite this article as: Undas A. How to optimize administration of low-dose NOACs in everyday practice? *Anatol J Cardiol.* 2022;26(11):852-853.

DOI:10.5152/AnatolJCardiol.2022.2190



Copyright@Author(s) - Available online at anatoljcardiol.com.
Content of this journal is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

Funding: Lecture honoraria from Boehringer Ingelheim, Bayer Pharma AG, and Pfizer/Bristol-Meyers-Squibb.

REFERENCES

1. Li Z, Zheng Y, Li D, et al. Low-dose NOACs versus standard-dose NOACs or warfarin on efficacy and safety in Asian patients with NVAF: a meta-analysis. *Anatol J Cardiol.* 2022;26(6):424-433. [\[CrossRef\]](#)
2. Weronka A, Broniatowska E, Papuga-Szela E, Undas A. Efficacy and safety of non-vitamin K antagonist oral anticoagulants in very elderly patients with atrial fibrillation: a single-center experience. *Kardiol Pol.* 2020;78(2):154-157. [\[CrossRef\]](#)
3. Rusin G, Ząbczyk M, Natowska J, Malinowski KP, Undas A. Direct oral anticoagulants in patients with atrial fibrillation and liver cirrhosis: a single-center experience. *Kardiol Pol.* 2021;79(7-8):864-866. [\[CrossRef\]](#)
4. Akpan IJ, Cuker A. Laboratory assessment of the direct oral anticoagulants: who can benefit? *Kardiol Pol.* 2021;79(6):622-630. [\[CrossRef\]](#)
5. Proietti M, Romanazzi I, Romiti GF, Farcomeni A, Lip GYH. Real-world use of apixaban for stroke prevention in atrial fibrillation: a systematic review and meta-analysis. *Stroke.* 2018;49(1):98-106. [\[CrossRef\]](#)