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Reply to Letter to the Editor: "How to Optimize Administration of Low-Dose NOACs in Everyday Practice?"

LETTER TO THE EDITOR REPLY

To the Editor,

We would first like to thank Dr. Undas[1] for raising valuable questions about our recent study[2] that allow us to deeply discuss the administration of low-dose non-vitamin K antagonist oral anticoagulants (NOACs) in clinical practice. We carefully read the letter to the editor.[1] The author focused on a key issue of who could benefit from low-dose NOACs, apart from those in whom such regimen is recommended. Comparing the baseline characteristics between standard-dose NOACs and low-dose NOACs in our meta-analysis, patients who were the elderly (>70 years old), at high risk of stroke (CHA_2DS_2-VASc score of 2.0-5.0), and at low or moderate risk of bleeding (HAS-BLED score of 0.8-3.0), might be appropriate for low-dose NOACs regimen and achieve non-inferior effectiveness compared to standard-dose NOACs. As the author mentioned, patients with lower weight and impaired renal function[3] or liver cirrhosis[4] might also benefit from low-dose NOACs. The author was also interested in whether the very elderly patients have acceptable rates of thromboembolism and bleeding events in both NOACs groups. It was demonstrated that the efficacy and safety of low-dose NOACs were non-inferior to standard-dose NOACs in our study, thus, we thought the answer to the above might be "Yes."

Laboratory assessment was used to guide the optimal management of NOACs by several centers in some special situations including extremes of body weight, renal hypo- or hyperfunction, liver disease, suspected drug-drug interactions, or suspected gastrointestinal malabsorption.[5] Thus, the author paid attention to whether there were some available plasma levels' data of NOACs in the included studies validating the effectiveness of the laboratory assessment approach. Liquid chromatography with tandem mass spectrometry (LC-MS/MS) is widely used for measuring directly oral anticoagulant (DOAC) levels. However, it is not always available in clinical practice, particularly when a rapid turnaround is required.[5] Unfortunately, the plasma levels' data of NOACs were not involved in the included studies, and we cannot determine whether this method is reasonable. Nonetheless, it may be a good attempt for optimizing the administration of NOACs because laboratory assessment can directly indicate the individual pharmacokinetics playing an important role in the drug's effectiveness.[6]

In our opinion, the author emphasized whether there were any differences among NOACs in each subgroup treated with a given direct anticoagulant. We cannot answer this question at present; firstly, the original data in most included studies were a composite of different NOACs and we cannot obtain the individual data of each NOAC. Secondly, the comparisons concerning effectiveness or safety among different NOACs were not observed as well in the included studies. However, given the valuable guidance for the clinical practice, it is worth proceeding in our future study.

Finally, we hope that we have addressed all the comments of the author and would like to thank the author for offering an opportunity for us to make a more profound interpretation of our study.

Ze Li[1]
Xiaozhen Wang[2]
Aiping Wen[1]

[1]*Department of Pharmacy, Beijing Friendship Hospital, Capital Medical University, Beijing, China*
[2]*Central Laboratory, Xuanwu Hospital, Capital Medical University, Beijing, China*

Corresponding author:
Aiping Wen
✉ wenaiping@ccmu.edu.cn

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