



# Direct oral anticoagulants, vitamin K antagonists, and simple single tooth extraction

Beuy Joob<sup>1</sup> · Viroj Wiwanitkit<sup>2</sup>

Received: 18 December 2018 / Accepted: 25 January 2019 / Published online: 31 January 2019  
© Springer-Verlag GmbH Germany, part of Springer Nature 2019

Dear Editor, we read the publication on “Should we fear direct oral anticoagulants more than vitamin K antagonists in simple single tooth extraction? A prospective comparative study” with great interest [1]. Berton et al. concluded that “Patients assuming DOACs can be treated similarly to patients in VKAs therapy with INR index between 2 and 3 [1].” In fact, the management of the patients receiving any medication affecting hemostasis is an important consideration in dental surgery. The good decision-making should base on the coagulation test results. Nevertheless, there is still an important precaution on the interpretation of INR index. In laboratory medicine, different laboratory reagents can result in different INR index values. As reported by Morrison et al., the INR value by Manchester method is lower than those values obtained by the other methods [2]. Also, the sensitivity of a thromboplastin reagent to heparin can result in false increased INR value [3]. To interpret INR index, the dentist has to recognize about the problem of false value. At least, the dentist should recheck by history, taking to rule out any risk of bleeding tendency of the patients.

## Compliance with ethical standards

**Conflict of interest** The authors declare no conflict of interest.

**Ethical approval** This article does not contain any studies with human participants or animals performed by any of the authors.

**Informed consent** For this type of study, formal consent is not required.

**Publisher's note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

## References

1. Berton F, Costantinides F, Rizzo R, Franco A, Contarin J, Stacchi C, Maglione M, Visintini E, Di Lenarda A, Di Lenarda R (2018) Should we fear direct oral anticoagulants more than vitamin K antagonists in simple single tooth extraction? A prospective comparative study. *Clin Oral Investig*. <https://doi.org/10.1007/s00784-018-2739-9>
2. Morrison M, Caldwell A, McQuaker G, Fitzsimons EJ (1989) Discrepant INR values: a comparison between Manchester and thrombotest reagents using capillary and venous samples. *Clin Lab Haematol* 11(4):393–398
3. Leech BF, Carter CJ (1998 Jun) Falsely elevated INR results due to the sensitivity of a thromboplastin reagent to heparin. *Am J Clin Pathol* 109(6):764–768

---

✉ Beuy Joob  
beuyjoob@hotmail.com

<sup>1</sup> Medical Academic Center, Bangkok, Thailand

<sup>2</sup> Joseph Ayo Babalola University, Ikeji-Arakeji, Nigeria