

Letters to the Editor

Pharmacokinetics of apixaban

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I have recently been updating information on the new oral anticoagulants for NPS MedicineWise.

I used your article¹ as a starting point to see what references have been published since 2013.


In reviewing the pharmacokinetics of apixaban, I got confused and so did some further research. I found a Letter to the Editor on the topic.² It essentially explains that the commonly quoted number of 50% for renal clearance is flawed due to a calculation error between the primary and secondary source.

Penny Beirne
Clinical program officer
NPS MedicineWise

REFERENCES

1. Chin PKL, Doogue MP. Long-term prescribing of new oral anticoagulants. *Aust Prescr* 2016;9:200-4. <http://dx.doi.org/10.18773/austprescr.2016.068>
2. Frost C, Boyd RA. The contribution of apixaban renal clearance to total clearance. *J Thromb Thrombolysis* 2015;40:521-2. <http://dx.doi.org/10.1007/s11239-015-1220-8>

Paul Chin and Matthew Doogue, the authors of the article, comment:

 Penny Beirne highlights the inconsistent reporting in the literature of the fraction of unchanged apixaban excreted in urine. This has also recently been noted by others.¹ The key article that informed our estimates of apixaban oral

bioavailability was a mass balance study.² It reported that around 25% of an orally administered dose was excreted unchanged in urine. When corrected for an oral bioavailability of 50%, this translates to a fraction of 0.5 excreted unchanged in urine. However, this estimate is made in the absence of data on intravenously administered apixaban.

Since reviewing the literature following this letter, we found another apixaban pharmacokinetic study.³ It reported that the fraction of apixaban excreted unchanged in urine following intravenous administration was 0.34. We thus concur with Penny Beirne and would like to change the apixaban value for 'excretion unchanged in urine' in the Table of our article to 34%.

REFERENCES

1. Hellfritsch M, Damkier P, Pottegard A, Gronlykke T, Grove EL. Inconsistencies in reporting of renal elimination among NOACs: the case of apixaban. *Pharmacoepidemiol Drug Saf* 2016;25:346-8. <http://dx.doi.org/10.1002/pds.3916>
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3. Vakkalagadda B, Frost C, Byon W, Boyd RA, Wang J, Zhang D, et al. Effect of rifampin on the pharmacokinetics of apixaban, an oral direct inhibitor of factor Xa. *Am J Cardiovasc Drugs* 2016;16:119-27. <http://dx.doi.org/10.1007/s40256-015-0157-9>

Editorial note:

The original article on long-term prescribing of new oral anticoagulants has been corrected based on this letter from the authors.



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