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Letter to the Editor

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Response to 'The end of the dosage of 6 Thioguanine nucleotides? Not so sure…'

Akbar K. Waljee,[a,b] Kay Sauder,[b] Anand Patel,[c] Sandeep Segar,[c] Yiwei Zhang,[d] Ji Zhu,[d] Ryan W. Stidham,[b] Ulysses Balis,[e] Peter D. R. Higgins[b]

[a]Department of Veterans Affairs Center for Clinical Management Research, Ann Arbor, MI, USA
[b]Division of Gastroenterology, Department of Internal Medicine, University of Michigan, MI, USA
[c]Department of Internal Medicine, University of Michigan, MI, USA
[d]Department of Statistics, University of Michigan, MI, USA
[e]Department of Pathology, University of Michigan, MI, USA

Corresponding author: Akbar K. Waljee, 2215 Fuller Road, Gastroenterology 111D, Ann Arbor, MI 48105, USA. Tel: 734-845-5865; Fax: 734-845-3237; E-mail: awaljee@med.umich.edu

We thank Robin *et al*. for their insightful comments on our paper and would like to clarify some of their concerns[1,2]. The measure of 6 thioguanine [6-TGN] was made via the available laboratory vendors in the United States. All of these laboratory measurements obtained were performed by Prometheus, and were determined by reversed-phase high-performance liquid chromatography, commonly known as the Lennard method.

It is true that some of the studies we discussed may have been underpowered for the effect size that was observed, but these studies were designed based on an expectation of a large clinical benefit. These studies did not meet their prespecified endpoints needed to show the utility of dose optimization of thiopurines using 6-TGN. There are additional studies that have shown similar trends.[3-5]

Recent recommendations by the American Gastroenterological Association on the role of therapeutic drug monitoring have suggested that there may be a benefit to reactive thiopurine metabolite monitoring, with a very low quality of evidence. We have repeatedly shown that algorithm monitoring is superior to metabolite monitoring for predicting clinical and biological remission in the same patients. We have also recently confirmed that our model remains highly accurate when applied to external datasets.[6] We believe that metabolite monitoring may still play a role in confirming non-adherence and shunting of thiopurines.[7]

Conflict of Interest

The Regents of the University of Michigan, along with authors Peter Higgins, Akbar Waljee and Ji Zhu, have a patent on the application of machine learning to patterns in the complete blood count with differential and the comprehensive chemistry panel to the prediction of clinical response to thiopurines. The patent was granted on February 28, 2012. The remaining authors disclose no conflicts of interest.

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