Reviewer’s report

Title: Prevalence of TPMT and ITPA gene polymorphisms and effect on 6-mercaptopurine dosing in Chilean Children with Acute Lymphoblastic Leukemia

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Reviewer: Benigna Oliveira

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Major Revisions

TPMT has already been a widely studied system, because it clearly illustrates the potential of the clinical use of pharmacogenetics. The manuscript addresses this topic clearly and with an appropriate methodology of analysis. I would suggest a few changes to the manuscript:

1. From the manuscript it is not clear when the genotyping was done. Was the genotyping done prior to beginning of the treatment? If so, did the results of genotyping influence the treatment in any way?

2. The authors commented: “… a situation which might be explained by the 6-MP dose adjustment, considering the amount of leukocytes and lymphocytes, as the clinical guidelines suggest.” It would be interesting that the authors clarified these parameters (the amount of leukocytes and lymphocytes) used to the 6-MP dose adjustment. Was the accounting of neutrophils not used?

3. It seems that no formal sample size calculation was performed for this study. Did the authors investigate the total number of patients treated over a certain time period? Do the authors consider that the sample size is enough for conclusions? If they have taken the sample size as a limitation, this must be included in the discussion section.

4. Is there any likelihood that some children genotyping or TPMT activity measurement has been influenced by blood transfusions?

Discretionary Revisions

The reference 14 is not the only study conducted in Brazil on this issue.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
'I declare that I have no competing interests'