

# Plateletcrit may not be an index for predicting liver fibrosis in patients with chronic hepatitis B

Dear Editor,


We read with great interest the article of Wang et al about the usage of plateletcrit (PCT) for the prediction of liver fibrosis in patients with chronic hepatitis B.<sup>1</sup> According to the results, the authors claimed that PCT was an independent predictor of significant liver fibrosis, and it might be used as an alternative technique to diagnose liver fibrosis. We would like to suggest factors that might negatively affect the results of this study.

Plateletcrit is obtained by calculating the number of platelets and mean platelet volume (MPV) in laser-based optical blood analyzers ( $PCT = \text{platelet count} \times \text{MPV} / 10\,000$ ) and is therefore influenced by variables related to platelet count and MPV measurement. Accurate measurement of MPV cannot be obtained due to various technical problems, such as swelling of platelets after exposure to ethylenediaminetetraacetic acid.<sup>2,3</sup> Also, platelet parameters including MPV are highly specific to the individual technologies, and different analyzers have different normal ranges. Beyan & Beyan showed that the maximum deviations in MPV measurements occurred up to 27.7% depending on the MPV measurement times after venipuncture and the variety of devices used for blood count.<sup>4</sup> The retrospective study conducted by Wang et al included data for a very broad time period of 15 years, and since it was a retrospective study, pre-analytical and analytical errors could not be ruled out. The times from venipuncture to MPV measurement were unknown and could not be standardized, and the analyzers used for complete blood counts were not specified. All these factors, and perhaps others, made the reliability of the PCT values highly suspicious.

Another point is that the authors suggested that PCT was an indicator for platelet function. Optical platelet aggregation performed using a turbidimetric method is the gold standard technique for the measurement of platelet function, and in a study using this method, there was no correlation between platelet aggregation responses and platelet indices including PCT.<sup>5</sup> Currently, none of the platelet indices, including PCT, are included in the methods used to evaluate platelet function.

In conclusion, PCT may not be a potential index for predicting liver fibrosis in patients with chronic hepatitis B.

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## REFERENCES

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