Reviewer's report

**Title:** Justified Granulation Aided Noninvasive Liver Fibrosis Classification System

**Version:** 4

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**Reviewer:** Lionel Rostaing

**Reviewer's report:**

The paper by M. Bernas et al. is titled "Justified granulation aided noninvasive liver fibrosis classification system".

Chronic liver diseases can result in fibrosis and, ultimately, cirrhosis. The gold standard to assess liver fibrosis (LF) is a liver biopsy (LB) with all its attendant risks to the patient, e.g., pain, bleeding, etc... LF is classified using the Metavir score applied to the LB.

There are alternatives to a LB, such as the FibroTest. Herein, the authors report on a new tool that uses the granulation paradigm model. This uses a series of intervals that represent the influence of 33 separate blood attributes on the stage of LF. The authors state (on p. 3) that eight of these attributes can be eliminated to leave 26: this should be 25 instead.

Metavir score is divided into five stages (F1–F5). The authors have only defined three stages of fibrosis, i.e., S1 for F0 and F1, S2 for F2 and F3, and S3 for F4.

As a clinician, I find this paper quite difficult to follow. However, the main message is that, using the authors’ method, without performing a LB, the error rate in misclassification of the S1 and S3 classes is below 6.5%. This is of major importance as stages 0 and 1 mean almost no liver fibrosis, whereas stage 4 means cirrhosis. Therefore, when a new non-invasive tool is able to accurately predict these stages this is of major improvement in clinical practice. However, for patients who are neither S1 nor S3, i.e. who are S2, a liver biopsy will remain mandatory.

These authors’ method was established using laboratory data from 290 patients with chronic hepatitis C and from a single center in Katowice. It is therefore mandatory to validate this methodology in an independent set of chronic hepatitis C patients as well as a set of patients with a chronic liver disease other than hepatitis C virus infection.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.
Declaration of competing interests:
NONE