Reviewer’s report

**Title:** Identify the degree of liver fibrosis in CHB patients using an artificial neural network based on routine and serum markers

**Version:** 1  **Date:** 16 February 2010

**Reviewer:** giada Sebastiani

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The study by Wang et al deals with non-invasive prediction of significant fibrosis in chronic hepatitis B patients through an artificial neural network based on common serum parameters. The authors conclude that the model may save 42.7% liver biopsies with a good diagnostic performance. The study is interesting, as not many studies about non-invasive prediction of liver fibrosis have been conducted in hepatitis B. On the other hand, staging of liver fibrosis is essential in chronic hepatitis B, for both prognosis and management.

Major compulsory revisions

1) the authors reported a good performance, as indicated by AUROC. The prevalence of significant fibrosis was relatively low (27%). As suggested by Poynard et al (Clin Chem 2007), when evaluating the performance of a non-invasive model for liver fibrosis, the prevalence of liver fibrosis stages should be taken into account and corrected by DANA (difference of prevalence of advanced and nonadvanced fibrosis stages). It would be important to correct the AUROCs by DANA in this study.

2) the division of the population in three groups is really not clear in the abstract. Moreover, the authors state that NPV was 100% and all patients with significant fibrosis would be captured. This would be true for a PPV of 100%, while if the NPV is 100%, it should mean that all patients without significant fibrosis should be captured! Please clarify.

Minor essential revisions

1) an important parameter to define an appropriate sample for liver biopsy is the number of portal tracts. The authors should provide this information.

2) page 2, mispelling: "motheds" to be corrected with "methods"

3) page 5, mispelling: "hepatocelular" must be replaced with "hepatocellular"

**Level of interest:** An article whose findings are important to those with closely related research interests

**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