Reviewer's report

Title: A hybrid decision support model to discover informative knowledge in diagnosing acute appendicitis

Version: 1 Date: 1 November 2011

Reviewer: Kohei Akazawa

Reviewer's report:

Minor Essential revisions

The authors used Chi-square and Student's t-test to extract the significant clinical factors. However, some strict assumptions should be needed to apply these statistical methods to real clinical datasets. Actually, some countinous variables have considerable variances between AA and Non-AA groups, and Student's t-test could not be used for the avariables.

I think that the enter and removal criteria of 0.01 and 0.05 (these are not p-values. "p=" should be deleted) in multiple logistic regression analysis are too strict. This setting leads to extracting only few factors, with comparison to chi-square and Student's t-test. I am interested in the results of accuracy, sensitivity, specificity, and ROC analysis, when the authors perform the same analysis for the enter and remove criteria of 0.05 and 0.06.

The expressions of "p=0.000" are incorrect. The authors should describe "p<0.001".

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.