



PEER-REVIEW REPORT

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Title: A machine learning approach to predict acute kidney injury after liver surgery

Reviewer's code: 06129418

Position: Peer Reviewer

Academic degree: MD

Professional title: Professor

Reviewer's Country/Territory: Germany

Author's Country/Territory: China

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Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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SPECIFIC COMMENTS TO AUTHORS

The potential non-linear relationship between variables and variable-outcome can compromise the predictive performance of the model, and the traditional multiple linear analysis methods limit the number of relevant variables that may be clinically significant. In contrast, machine learning techniques are not limited to linear relationships nor to the number of variables included in the analysis, and therefore may offer a better predictive performance. Acute kidney injury predictive models based on big data and artificial intelligence are potentially reliable tools to monitor the condition of each patient and help support clinical decisions accordingly individually and prospectively. This study used the machine learning algorithms to develop the liver surgery associated acute kidney injury models, with appropriate validation and evaluation of the model's performance. The study is well designed and the results are interesting. The criteria of data collection are reasonable, and clearly described. Performance evaluation are well displayed. The tables and figure are well described. A minor editing both for the discussion and the language of the main text is required.