

## PEER-REVIEW REPORT

**Name of journal:** *World Journal of Clinical Cases*

**Manuscript NO:** 74121

**Title:** Flap Failure Prediction in Microvascular Tissue Reconstruction using Machine Learning Algorithm

**Provenance and peer review:** Unsolicited Manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 06074976

**Position:** Peer Reviewer

**Academic degree:** MD

**Professional title:** Doctor

**Reviewer's Country/Territory:** United States

**Author's Country/Territory:** China

**Manuscript submission date:** 2021-12-14

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2021-12-19 12:07

**Reviewer performed review:** 2022-01-02 10:36

**Review time:** 13 Days and 22 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input 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 Grade E: Do not publish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 type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

<b>Peer-reviewer statements</b>	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**

Despite the rare occurrence of flap failure, it can result in devastating consequences for patients, such as permanent scarring of the face and breast. Moreover, it increases complication in postoperative care, length of hospital stays, financial burden, and mental stress to the patients. Therefore, it is important to identify the relevant factors and screen out high-risk patients before surgery, which might result in flap failure. This manuscript developed a machine learning-based predictive model for the flap failure for identify the potential factors and screen out high-risk patients. The manuscript is very well written. The results are very interesting. The data are discussed with updated references. Only a minor editing is required.

**Reply:** *Thanks for your positive feedback.*

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**Provenance and peer review:** Unsolicited Manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 06074986

**Position:** Peer Reviewer

**Academic degree:** MD

**Professional title:** Doctor

**Reviewer's Country/Territory:** Italy

**Author's Country/Territory:** China

**Manuscript submission date:** 2021-12-14

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2021-12-19 12:06

**Reviewer performed review:** 2022-01-02 10:38

**Review time:** 13 Days and 22 Hours

<b>Scientific quality</b>	<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
<b>Language quality</b>	<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
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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<b>Peer-reviewer statements</b>	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**

This is an interesting study about the flap failure prediction in microvascular tissue reconstruction using machine learning algorithm. The study is very well designed, and the results are well display. The reviewer recommends to accept this manuscript after a minor editing.

**Reply:** *Thanks for your positive feedback.*

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**Provenance and peer review:** Unsolicited Manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 05738088

**Position:** Editorial Board

**Academic degree:** MSc, PhD

**Professional title:** Associate Professor

**Reviewer's Country/Territory:** India

**Author's Country/Territory:** China

**Manuscript submission date:** 2021-12-14

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2022-01-02 03:57

**Reviewer performed review:** 2022-01-03 06:16

**Review time:** 1 Day and 2 Hours

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 type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

<b>Peer-reviewer statements</b>	Peer-Review: [ <input checked="" type="checkbox"/> ] Anonymous [ <input type="checkbox"/> ] Onymous
	Conflicts-of-Interest: [ <input type="checkbox"/> ] Yes [ <input checked="" type="checkbox"/> ] No

## SPECIFIC COMMENTS TO AUTHORS

1. Please check all machine learning algorithm applied and best results of random forest taken?

**Reply:** *It is really true as Reviewer suggested and We have made correction according to the Reviewer ' s comments. In the resubmitted manuscript, we added additional machine learning techniques in order to compare them.*

2. Please compare and contrast the results with existing methods and proposed method.**Reply:** *Considering the Reviewer ' s suggestion, we have tried our best to find existing or proposed methods, but none were found. So we only did comparisons between machine learning models.*

3. Check the quality of figures it should be in HD and standard format.

**Reply:** *We are very sorry for our negligence and we've made correction according to the Reviewer ' s comments.*

4. Please mention the formula and how the calculation done? Sensitivity, specificity ( Figure 1A,B in Appendix).

**Reply:** *We alternatively made a general discription in the "machine learning technique" section of the "Methods" paragraph.*

5. How machine leaning techniques applied? methods and procedures need to be shown in the manuscript.

**Reply:** *Detail discription was shown in the "machine learning technique" section and "Statistical Analysis" section of the "Methods" paragraph.*

6.Comapre and justify your results are best with existing method

**Reply:** *Considering the Reviewer ' s suggestion, we have tried our best to find existing or*



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*proposed methods, but none were found. So we only did comparisons between machine learning models.*

*So far, we have tried our best to improve the manuscript and made some changes to the manuscript. These changes do not affect the content or the framework of the paper. Here, we do not list these changes, but they are marked in red in the revised paper.*

*We appreciate for Editors/Reviewers' warm work earnestly, and hope that the correction will meet with approval. Thanks a lot.*