PEER-REVIEW REPORT

Name of journal: World Journal of Gastroenterology

Manuscript NO: 56222

Title: Risk Prediction Platform for Pancreatic Fistula after Pancreatoduodenectomy Using Artificial Intelligence

Reviewer's code: 02541992

Position: Peer Reviewer

Academic degree: MD, PhD

Professional title: Doctor, Surgeon

Reviewer's Country/Territory: France

Author's Country/Territory: South Korea

Manuscript submission date: 2020-04-22

Reviewer chosen by: AI Technique

Reviewer accepted review: 2020-04-23 05:58

Reviewer performed review: 2020-04-23 13:19

Review time: 7 Hours

Scientific quality	[Y] Grade A: Excellent [ ] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish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

SPECIFIC COMMENTS TO AUTHORS

Thank you to invite me to review the manuscript entitled "Risk Prediction Platform for Pancreatic Fistula after Pancreatoduodenectomy Using Artificial Intelligence". Nine authors are listed from one Korean (Seoul) expert centre. In this article, the authors described how they designed the first platform using artificial intelligence in order to predict pancreatic fistula (POPF) after pancreaticoduodenectomy (PD). First, POPF is still the main obsession of pancreatic surgeons as it dictates postoperative outcomes. When some risk factors are commonly admitted, some are still debated; Artificial intelligence with machine learning should help to design predictive models despite complex intricate patterns between these factors. Therefore, the authors used a retrospective institutional series including 1769 patients, from an expert centre; 221 POPF were recorded. Machine learning was based on well-known or currently debated risk factors. Overall, the model is accurate, easy to use, and should be seen as an asset. I have no concern regarding this study or the manuscript. I congratulate the authors for this study and recommend publication.

PEER-REVIEW REPORT

Name of journal: World Journal of Gastroenterology

Manuscript NO: 56222

Title: Risk Prediction Platform for Pancreatic Fistula after Pancreatoduodenectomy Using Artificial Intelligence

Reviewer's code: 04718315

Position: Peer Reviewer

Academic degree: MD

Professional title: Assistant Professor

Reviewer's Country/Territory: United States

Author's Country/Territory: South Korea

Manuscript submission date: 2020-04-22

Reviewer chosen by: AI Technique

Reviewer accepted review: 2020-04-22 12:28

Reviewer performed review: 2020-04-28 22:10

Review time: 6 Days and 9 Hours

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

SPECIFIC COMMENTS TO AUTHORS

The authors use machine learning to identify risk factors for grade B/C POPF according to the ISGPF definitions using a large single-center retrospective database from Korea. The study seems to be well done and manuscript well written. While the approach is innovative, the findings are not overly novel or impactful. 1. The main limitation is the lack of clinical utility. Although a web-based calculator was created, a tool with 16 variables is very cumbersome to use. Especially when its predictive ability is not significantly better (AUC 0.74) than current models. I'm sure many would be willing to reduce the AUC a bit in order to have fewer factors (see figure 1). 2. The other limitation is the lack of external validation. Also, the methods stated that the cohort was split into a training and validating set, but the results are presented as just one large cohort analysis. 3. The factors identified are largely known risk factors for POPF. Interestingly, the authors bring up sarcopenia but don't provide data on that factor. 4. The authors also bring up mitigation factors which have largely been proven unsuccessful for POPF prevention. 5. Since duration of drain placement influences POPF risk, what was the authors' drain management practice? 6. Caution stating first study to…..See recent paper: Surgery. 2020 Feb;167(2):448-454