PEER-REVIEW REPORT

Name of journal: *World Journal of Clinical Oncology*

Manuscript NO: 73082

Title: Artificial intelligence and cholangiocarcinoma: updates and prospects

Provenance and peer review: Unsolicited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05196071

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: China

Author's Country/Territory: United States

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Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-11-09 08:19

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Review time: 3 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Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish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) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[ ] Yes [Y] No
Peer-reviewer	Peer-Review: [ ] Anonymous [Y] Onymous

statements	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

1. In the third paragraph of the INTRODUCTIOND section: "Although liver function tests remain the initial lab tests, a combination of tumor markers like carbohydrate antigen (CA) 19-9 and carcinoembryonic antigen (CEA) are also utilized to diagnose the disease especially in patients with primary sclerosing cholangitis (PSC)[8]. "I don't know what this expression is meant to explain? In addition, the content of the third paragraph should be related to AI.   2. In the AI IN THE DIAGNOSIS OF CCA section: "LR is a linear regression model used for binary classification of problems[16]. SVM is an appropriate model for small samples, high-dimensional, and non-linear patterns assigning labels to objects and has advantage of avoiding "over learning" problem[17]. ANN or multilayer perceptron is an attempt to simulate the biologic nervous system with neurons interconnected able to do parallel processing[16]. Developed by Huang et al., Extreme Learning Machines (ELM) are a type of feedforward neural network models that have shown superiority over SVMs and traditional feedforward neural networks[18]. Convoluted neural network (CNN), a type of DL consists of multilayer of ANN that results in a superior learning ability of complex tasks and has been used in radiology and imaging of the malignancy and associating the radiological data to the clinicopathologic data[19, 20]. Every method has their advantages and drawbacks illustrated in table 1. ", can be considered to be added to INTRODUCTIOND.   3. In the AI IN THE DIAGNOSIS OF CCA section, the research mentioned in "Histology, CT, MRI and MRCP", it is recommended that the researches with similar methods should be appropriately combined and then expressed. For example: "Xu et al. studied 106 patients with CCA and developed a SVM model that showed superior results when used in combination with lymph node involvement in MRI and CA 19-9 level compared to SVM

model alone (validation group AUC 87.0% vs. 78.7%)[32]. " and " Yao et al. validated a radiomics based particle swarm optimization and SVM model based on 110 MRI images of the CCA patients attempting to diagnose the extent of lymph node metastasis with an average accuracy AUC of 90% and 88%[35]. " These two studies can be combined. 4. In the "TREATMENT AND PROGNOSIS OF CCA" section, you can summarize the studies using the same or similar evaluation criteria "CA 19-9, tumor size, CT images, nodal metastasis, etc." instead of listing individual studies.

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Name of journal: *World Journal of Clinical Oncology*

Manuscript NO: 73082

Title: Artificial intelligence and cholangiocarcinoma: updates and prospects

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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) [Y] Accept (General priority) [ ] Minor revision [ ] Major revision [ ] Rejection
Re-review	[ ] Yes [Y] No
Peer-reviewer	Peer-Review: [Y] Anonymous [ ] Onymous

statements	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

This paper reviews the application of artificial intelligence in cholangiocarcinoma, with clear logic and certain value.   It is recommended that the abstract and introduction reflect the timeliness of AI, not the oldest.

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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) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[ ] Yes [Y] No
Peer-reviewer	Peer-Review: [Y] Anonymous [ ] Onymous

statements	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

I think it's a well written review that summarized multiple AI-based models or algorithms in the diagnosis and treatment of CCA mostly in the last three years. As the authors mentioned, CCA is an aggressive tumor diagnosed sporadically in advanced stages with high mortality. Therefore, it is urgent to evaluate AI's power concerning CCA in prospective cohort study. But considering the generality of AI, I think it is also necessary to highlight its unique aspects (if there is any) in CCA application.