



PEER-REVIEW REPORT

Name of journal: *Artificial Intelligence in Medical Imaging*

Manuscript NO: 87062

Title: Evaluation of computer aided detection during colonoscopy among Veterans:
randomized clinical trial

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer’s code: 03093768

Position: Editorial Board

Academic degree: MD

Professional title: Associate Professor, Chief Doctor, Doctor, Surgeon, Surgical
Oncologist

Reviewer’s Country/Territory: China

Author’s Country/Territory: United States

Manuscript submission date: 2023-07-23

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-07-23 12:32

Reviewer performed review: 2023-07-30 12:21

Review time: 6 Days and 23 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 Grade E: Do not publish
Novelty of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty



Creativity or innovation of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No creativity or innovation
Scientific significance of the conclusion in this manuscript	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input checked="" type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No scientific significance
Language quality	<input checked="" type="checkbox"/> Grade A: Priority publishing <input 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

SPECIFIC COMMENTS TO AUTHORS

I thank the editor for inviting me to review this paper. The authors performed a randomized controlled trial to evaluate the impact of CADe. In this RCT performed at a center with high ADR, use of CADe was found to have decreased APC, ADR, as well as serrated polyp detection rate. The paper is a prospective clinical study, with excellent writing and clear structure. Although the conclusion is worth discussing, it is still worth reading. There are the following issues that the authors needs to answer. 1. A total of four endoscopists have performed all clinical endoscopic procedures, and the authors also mentioned that these physicians have over 5 years of work experience. But can this indicate that the four endoscopists have the same level of endoscopy? Have all these endoscopists had experience with large-volumn endoscopic examinations before? The number of four doctors is relatively small, and there may be selection bias. 2. Before performing the procedure, the endoscopists had made it clear whether the case



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would be screened by CADe. Psychological implications may affect the rigor of analysis without CADe 3. In the baseline data, there was a significant race/ethnicity difference between the two groups. Did this difference affect the data? Suggested analysis and discussion In the application of AI in digestive endoscopy, a large and high-quality training set is required to obtain the specificity and sensitivity of auxiliary detection. At the same time, in practical applications, it is also constrained by the operational level of endoscopists, which may lead to misjudgment. Previous research findings mostly suggest that AI or CADe systems are helpful for lower experienced physicians (those with limited practical experience or shorter working hours). For experienced endoscopists, the value of AI is limited. According to this article, physicians are mostly experienced. It is reasonable that they did not receive CADe without significant value. Perhaps this AI assisted system is more valuable in medical units with low ADR detection rates or limited volume of endoscopic procedures.



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Reviewer's code: 03645427

Position: Peer Reviewer

Academic degree: MD

Professional title: Chief Doctor, Director

Reviewer's Country/Territory: South Korea

Author's Country/Territory: United States

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Reviewer chosen by: Geng-Long Liu (Quit 2023)

Reviewer accepted review: 2023-08-18 04:22

Reviewer performed review: 2023-08-19 02:58

Review time: 22 Hours

Scientific quality	<input checked="" type="checkbox"/> Grade A: Excellent <input 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
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Language quality	<input checked="" type="checkbox"/> Grade A: Priority publishing <input 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 checked="" type="checkbox"/> Accept (High priority) <input 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

SPECIFIC COMMENTS TO AUTHORS

As AI begins to become ubiquitous worldwide, Computer-Aided Detection (CADE) is being attempted in various countries, and I myself have had several instances of using it in clinical practice. As mentioned in the paper, there are diverse outcomes regarding the utility of CADE, and personally, I don't perceive its effects to be particularly positive. In this context, this paper provides us with crucial information on how to potentially apply CADE in actual practice by presenting the background and results of this study conducted on patients not included in the AI-SEE research. While the precise explanation for why experienced colonoscopists exhibited lower Adenoma Detection Rates (ADR) wasn't explicitly provided in this paper, we acknowledge that interpreting this is quite challenging. Among the results from AI-SEE, a lower Adenomas per Extraction rate might offer a plausible explanation. The high false positive rate in detecting adenomas could indeed pose a problem for CADE. Both the design of the study and the writing of the paper are commendable in my opinion.