



PEER-REVIEW REPORT

Name of journal: *World Journal of Clinical Oncology*

Manuscript NO: 112639

Title: Metabolic syndrome and colorectal cancer: Mechanisms, epidemiological evidence, and clinical implications

Provenance and peer review: Invited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 08554767

Position: Peer Reviewer

Academic degree and professional title: Academic Fellow, PhD, Research Fellow

Reviewer's Country/Territory: China

Author's Country/Territory: China

Manuscript submission date: 2025-08-01

Reviewer chosen by: AI Editor

Reviewer accepted review: 2025-08-10 06:24

Reviewer performed review: 2025-08-12 06:48

Review time: 2 Days

Content to be reviewed	Does the manuscript's content fall within the scope of the journal? Yes Is there any Key Word that is not included in the manuscript title? No Do authors' affiliations correspond to the content of the manuscript? Yes Does the Abstract contain the contents of each part of the manuscript (IMRaD)? Yes Are the Key Words complete? Yes
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Is the content of the Introduction adequate? **Yes**

Is the content of the Materials and Methods complete?

Not Applicable

Is the description of the experiments clear and complete? **Not Applicable**

Are the experimental data presented in the manuscript's biostatistics content reliable? **Not Applicable**

Are the experimental data of the Results true and reliable? **Not Applicable**

Are the quality and resolution of the images up to standard? **Not Applicable**

Do the selection and design of the figures and tables follow the principles of necessity and clarity? **Not Applicable**

Is there any duplication between various parts of the manuscript and between the main text and the content presented in the figures and tables? **No**

Are the figures and tables numbered consecutively in the order in which they appear in the manuscript? **Yes**

Is the content of the Discussion reasonable? **Yes**

Is the Conclusion reasonable? **Yes**

Are all references necessary and reasonable? **Yes**

Do authors omit important references? **No**

Are all references related to the topic of the manuscript? **Yes**

Do authors only cite their own earlier publications? **No**

Is the manuscript's text correct, concise, and clear? **Yes**

Will the manuscript's content be of interest to readers?
Yes



	Are additional experiments needed for the study? No Does the research scope comply with ethics? Not Applicable
Scientific quality	Grade A (Excellent)
Novelty of this manuscript	Grade A (Excellent)
Creativity or innovation of this manuscript	Grade B (Very Good)
Scientific significance of the conclusion in this manuscript	Grade B (Very Good)
Language quality	Grade B (Very good)
Does this manuscript describe a study of the existing knowledge system?	Yes
Does this manuscript report a revolutionary innovation?	No
Does this manuscript report an unconventional innovation?	No
Conclusion	Accept
Re-review	Yes
Peer-reviewer statements	Peer-Review: Anonymous
	Conflicts-of-Interest: No
Are your review comments generated by AI tools?	No

SPECIFIC COMMENTS TO AUTHORS

The presentation of epidemiological data is comprehensive, but it could be improved by including more detailed tables or figures summarizing the key findings from the cited studies. This would make it easier for readers to quickly grasp the main results. Additionally, a more detailed discussion on the consistency of findings across different



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populations and study designs would strengthen the argument. For example, highlighting how abdominal obesity and hyperglycemia consistently emerge as key components associated with CRC risk, despite variations in study methodologies, would provide a more robust context for the readers.

The section on the prognostic implications of MetS in CRC patients is informative. However, it could benefit from more specific examples of how managing MetS components, such as through lifestyle interventions or pharmacological treatments, has been shown to improve clinical outcomes in CRC patients. This would provide practical insights for clinicians and researchers. Furthermore, a more detailed discussion on potential future research directions in this area would be valuable. For instance, exploring the potential for personalized medicine approaches based on metabolic profiling could be highlighted.

The discussion on the central role of obesity and hyperglycemia could be expanded to include a more detailed analysis of how these components interact with other MetS components, such as hypertension and dyslipidemia, to influence CRC risk. Additionally, if available, including data on subgroup analyses by age, sex, and ethnicity would provide a more nuanced understanding of the impact of MetS components on CRC risk. This would help address potential heterogeneity in the effects observed across different populations.

Make sure the manuscript includes the latest studies and reviews on this topic. This will keep the review up-to-date and relevant. The manuscript should also use consistent terms. For example, use “MetS” all the time instead of other variations like “metabolic syndrome.” Finally, double-check the references for accuracy and completeness. Make sure all cited works are correctly referenced and formatted according to the journal’s guidelines.

In summary, this is a well-written and informative manuscript. It provides valuable



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insights into the relationship between MetS and CRC. By making some revisions to improve the clarity, depth, and presentation of the information, the manuscript can make an important contribution to the field. I look forward to seeing the revised version and believe it will be a valuable addition to our journal.



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Reviewer's code: 06487168

Position: Peer Reviewer

Academic degree and professional title: PhD, Professor

Reviewer's Country/Territory: Mexico

Author's Country/Territory: China

Manuscript submission date: 2025-08-01

Reviewer chosen by: Hong-Xin Jiang

Reviewer accepted review: 2025-08-21 04:37

Reviewer performed review: 2025-08-29 19:27

Review time: 8 Days and 14 Hours

Content to be reviewed	Does the manuscript's content fall within the scope of the journal? Yes Is there any Key Word that is not included in the manuscript title? No Do authors' affiliations correspond to the content of the manuscript? Yes Does the Abstract contain the contents of each part of the manuscript (IMRaD)? Yes Are the Key Words complete? Yes
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Do authors only cite their own earlier publications? **No**

Is the manuscript's text correct, concise, and clear? **Yes**



	Will the manuscript's content be of interest to readers? Yes Are additional experiments needed for the study? No Does the research scope comply with ethics? Not Applicable
Scientific quality	Grade C (Good)
Novelty of this manuscript	Grade D (Fair)
Creativity or innovation of this manuscript	Grade C (Good)
Scientific significance of the conclusion in this manuscript	Grade C (Good)
Language quality	Grade A (Excellent)
Does this manuscript describe a study of the existing knowledge system?	Yes
Does this manuscript report a revolutionary innovation?	No
Does this manuscript report an unconventional innovation?	No
Conclusion	Major revision
Re-review	Yes
Peer-reviewer statements	Peer-Review: Anonymous
	Conflicts-of-Interest: No
Are your review comments generated by AI tools?	No

SPECIFIC COMMENTS TO AUTHORS

This mini-review briefly explores the main risk factors derived from metabolic syndrome (MetS) associated with the development of colorectal cancer (CRC), mentions



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some of the main mechanisms that associate the presence of MetS with the development of CRC, and reviews the importance of reducing some components of MetS for lower recurrence and better prognosis of CRC.

The topic of the study is relevant to public health, appears well structured, and the different sections of the work are well interlinked. However, I believe that there are some aspects that should be addressed to better round out the work.

1. Introduction, first paragraph, line 4: The criteria for the diagnosis of MetS are mentioned, but hyperglycemia is not mentioned. In addition, it should be mentioned that meeting 3 of these 5 criteria is when a person is considered to have metabolic syndrome.
2. Introduction, last two lines of the second paragraph: It is mentioned that the manuscript addresses the controversies and gaps in knowledge about the relationship between the presence of MetS and the development of CRC. I believe that a section describing these aspects separately should be included, since while the controversies on the subject are not explicitly mentioned anywhere in the text, some gaps are only mentioned superfluously in the conclusion.
3. Section "Mechanistic Insights: Linking Metabolic Dysfunction to Colorectal Tumorigenesis." It is mentioned that in the development of CRC, "insulin resistance, chronic inflammation, and altered lipid metabolism are central factors." However, this contradicts what is stated in several parts of the manuscript where it is mentioned that "abdominal obesity and hyperglycemia are closely linked to CRC initiation and progression" (e.g., second paragraph of the introduction, lines 2 and 3). Please clarify this issue.
4. Section "Mechanistic Insights: Linking Metabolic Dysfunction to Colorectal Tumorigenesis": Please briefly mention the mechanism by which the imbalance between adiponectin and leptin contributes to the development of CRC.



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5. It would be helpful for a better reading and understanding of the article to include a figure describing the mechanisms by which MetS components contribute to the development of CRC.
6. Page 9, paragraph 2, first line: The authors refer to glucose metabolism as a “lifestyle.” Perhaps the authors meant to say “sedentary lifestyle”? Otherwise, the text should be reworded so that glucose metabolism is not understood as part of the “lifestyle” concept.
7. The studies cited in references 16 and 17 refer only to Chinese male populations. Similar studies exist in other populations that were not mentioned (e.g., Stocks, T., Lukanova, A., Johansson, M. et al. Components of the metabolic syndrome and colorectal cancer risk; a prospective study. *Int J Obes* 32, 304–314 (2008). <https://doi.org/10.1038/sj.ijo.0803713>). Do the same risk factors exist in the female population? Are there any studies on this subject?