

PEER-REVIEW REPORT

Name of journal: *World Journal of Hepatology*

Manuscript NO: 68247

Title: Gut dysbiosis and body composition in cirrhosis

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05562438

Position: Peer Reviewer

Academic degree: PhD

Professional title: Associate Professor

Reviewer's Country/Territory: Iran

Author's Country/Territory: Russia

Manuscript submission date: 2021-05-16

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-05-26 05:59

Reviewer performed review: 2021-06-07 10:19

Review time: 12 Days and 4 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input checked="" type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input checked="" 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
Peer-reviewer	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous

statements

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

SPECIFIC COMMENTS TO AUTHORS

Dear Editor, In this manuscript by Maslennikov, the authors investigated the relationship between gut microbiota and body composition in liver cirrhosis. In general, in this study, the researchers examined the stool of cirrhotic patients to evaluate gut microbiota using 16s rRNA gene sequencing and compared the results with body composition in these patients. Accordingly, the alternations of the gut microbiota were compared to any change in fat and body cell mass. Although this study aimed to provide some useful insights into the correlation of the gut microbiome and body composition in cirrhosis, there are several major concerns regarding the study.

- Liver cirrhosis is the end stage of a variety of chronic liver diseases with various etiologies. As no single pathomechanism can be implicated exclusively, various must act in concert to induce cirrhosis. Therefore, each etiology of liver cirrhosis could have its specific microbiome alternations and dysbiosis. As the authors concluded that “Changes in amount of body cell mass and extracellular liquid are associated with changes in the gut microbiome in cirrhosis patients”, so, how the authors could explain that the obtained results regarding to the dysbiosis in the cohorts could indicate any correlation between body composition and gut dysbiosis?!
- The analysis and comparison of a control group without cirrhosis and any other hepatic disorders must be implemented in this study. Of note, this comparison could provide valid information about body composition and gut microbiome regardless of cirrhosis effects on the microbial composition.
- The authors should clarify the etiology of cirrhosis in the enrolled patients clearly.
- There is no description of the analysis of microbiota in the text, i.e., sequence processing, data quality control, the approach of sequence analysis, etc.
- Why the authors did not analyze the microbiota composition at the level of family,



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genus, and species?! Importantly, any analysis at lower taxonomic levels could provide important information about the characterization of gut microbiota in the cohorts. • The presentation of the results is confusing. The authors should rewrite the Results section more clearly. • The English language of the text should be revised and corrected carefully. • The discussion section should be organized better and shortened. For example, the first paragraph of the discussion should describe your main findings in this study. The discussion is about general information, this information should be included in the introduction. Thus, you should omit extra information in the Discussion section. Minor concerns: • The title of the manuscript is too short and obscure. I recommend that the title be modified to provide an accurate representation of the content. • “Liver cirrhosis” should be added to the Keywords. • In my opinion, the order of the presentation of results should be changed. For instance, the results of microbial diversity should be presented before the results of the microbiota abundances.

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Position: Editorial Board

Academic degree: BSc

Professional title: Professor

Reviewer's Country/Territory: Italy

Author's Country/Territory: Russia

Manuscript submission date: 2021-05-16

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-05-25 06:58

Reviewer performed review: 2021-06-07 15:37

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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
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Peer-reviewer	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous

SPECIFIC COMMENTS TO AUTHORS

The work of Maslennikov et al. interestingly examines for the first time the effects of body composition modification on gut microbiota composition of cirrhotic patients. Major concerns: • In Introduction section authors state “The aim of the present study was to assess the relationship between gut microbiome and body composition in cirrhosis”. Please better describe the rationale of the study. • Authors must reorganize Results section in a more fluent form, for example by grouping the statistically significant taxa by taxonomic ranks and add “ssp.” after genus. • Authors must discuss the mechanisms by which the gut microbiota and the body components interacts each other. Minor concerns: • Page 5, Line: modify “the state of the gut microbiota” with gut microbiota status. • Please modify extracellular liquid with extracellular fluid • Since the authors conducted a compositional analysis, they should replace “gut microbiome” with “gut microbiota”. • In Materials and Methods section, Page 6, Line 64, authors mean “beads cleaning”? • Please, rephrase the sentence “Therefore, based on the obtained values of conduction on passing alternating current with different frequencies through patients, their age, sex, and anthropometric parameters (height, weight, etc.), a manufacturer's software provides estimates of fat and body cell mass and total and extracellular fluid. “, Pag. 7, Lines 85-88. • Please check eventual typos in the text, for example Eggethella, Lines 138 and 232, Proteobacteria at line 184 and serum albumen in tables 1-4. • In figure 2, authors should remove the no statistically significant p-values. • In Figure 3, the stars do not clearly define what are the statistically significant groups, so authors must provide a better representation. In addition, authors should provide a white background to the image. • In Figure 4 authors should add the p-values and the bars above the boxplots.



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