Response to Reviewer 1 Comments

Dear Reviewer :

Thank you very much for your comments and suggestions on our manuscript. We have revised our manuscript accordingly. The changes are incorporated into the manuscript with red color. The point-wise responses to the comments is detailed below in red color.

Best wishes!

1. The literature is too old, with only 3 references published after 2020. Thus, which cannot fully reflect the current research progress and is not timely. Please add articles published in the last three years.

Response: Thank you for your advice. As a review, real-time is important. We have enriched the article with the following references in the process:

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2. Line 21, 391: Please revise the statement: “construct a theory” or “reconstruct a theory”. You just raised a new perspective. There is no confirmatory experiment, no conclusive evidence.

Response: Thanks for the suggestion, it was such a detailed error that we didn't really pay attention to it. We have corrected this statement. As follows:

Line 21: In this paper, we present a new comprehensive insight into the relationship between

microbiota and Jaundice.

Line 446: In this review, we present a new perspective on the influence of the neonatal gut microbiota on the mechanism of physiologic jaundice.

3. Line 31: Why use "*Clostridium*"? The role of *Clostridium* is consistent with *Bacteroides*, why emphasize *Clostridium*?

Response: Thank you for your question. As you point out, *Clostridium* and *Bacteroides* play the same role in the narrative of this article— not only do they have β-glucuronidase activity, but they also reduce bilirubin and promote its excretion, which benefits recovery from jaundice, and for which reason they were ultimately categorized as traffic police. However, *Clostridium* has a higher β-glucuronidase activity compared to *Bacteroides*, which made them more likely to be misinterpreted as traffic jam causers. Therefore, we emphasize *Clostridium* precisely to draw the reader's attention to this specificity of *Clostridium*.

4. Line 390-406: It is recommended to add potential trends in future research, or to propose ideas for subsequent studies.

Response: Thank you for your valuable suggestion, which was an oversight on our part. As a concluding section, it would indeed be appropriate to have a future outlook, thus making this section more complete. We have made the following additions:

Line 459-466: With the encouragement of breastmilk feeding, jaundice would be more risk for neonates, and our theory could provide a theoretical basis and guide the development of new therapy methods to prevent this side effect of breastfeeding. For instance, when screening for new bilirubin metabolizing strains or constructing transgenic microorganisms with this ability, strains with favorable alterations occurring after phototherapy are preferred. Concurrent synergistic treatment in combination with phototherapy may be a viable way to establish new treatments for neonatal jaundice.