Reply to reviewer 1

Thank you for reading my article carefully and for your valuable comments. In response to your questions, I would like to make the following replies:

An excellent and very relevant meta-analysis which goes a long way in supporting the safety and clinical efficacy of minocycline in eradicating h pylori infection. The study flow looks perfect with good quality supporting tables and figures. There are minor concerns and suggestions that I would like the authors to consider:

1) Diagrammatic representation of various antibiotics and their relative mechanism of action on H pylori should be presented

Response 1: As per your suggestion, we have supplemented the graphic illustration of the bactericidal mechanism of minocycline, which will facilitate better understanding by the readers. However, since the topic of this article is to explore the action of minocycline and does not involve other antibiotics; moreover, it is very difficult to present the bactericidal mechanism of various antibiotics at the same time in a single diagram. Therefore, after discussion, we decided to show only the bactericidal mechanism of minocycline and did not present the bactericidal mechanisms of other antibiotics, and we hope to get your approval and understanding, thank you very much.

Amino acids and tRNAs are linked together by aminoacyl-tRNA synthetase to
produce specific Aminoacyl-tRNAs. Ribosomes on the ribosomal complex then read the code along the 5′→3′ direction of the mRNAs while linking various aminoacyl-tRNA-transported amino acids according to the instructions of the mRNA coding sequences for the process of protein synthesis. When minocycline enters into bacteria, it specifically binds to the A site of bacterial ribosomal 30S subunit aminoacyl group, thus blocking the aminoacyl-tRNA binding at this site, preventing peptide chain elongation and bacterial protein synthesis, and exerting bactericidal effects.

2) the 36% rate of adverse events is quite high. Do compare it with other antibiotics in different regimens

Response 2: We appreciate and agree with your suggestion. In this study, for the safety of minocycline-containing eradication regimens, we used a meta-analysis to compare the incidence of adverse reactions in eradication regimens with and without minocycline, and the results showed that the difference was not statistically significant when compared with other commonly used eradication regimens that do not contain minocycline (p=0.63). In addition, the results of two recently published RCTs in our center also showed that the incidence of adverse reactions in the classic bismuth quadruple regimen (combination of tetracycline and metronidazole) and the minocycline-containing quadruple regimen were similar. Therefore, although the pooled incidence of adverse reactions for the minocycline-containing eradication regimen was higher at 36.5%, it was similar compared with other eradication regimens commonly used in clinical practice today. For this explanation and illustration, we have made changes in the Discussion section of the paper and highlighted them in yellow font, so please review them.

3) in data analysis, just write the initials and not complete names of those who have performed the specific work eg Kai Zhou and Cai-ling Li should be mentioned as KZ and CL
**Response 3:** Thank you for your suggestions, we have made changes in the data analysis section of the paper as per your suggestions and highlighted them in yellow font, please check them out.

4) 20 studies were from China which represents a lopsided selection and accordingly the results need to be validated in studies from different geographic locations.

**Response 4:** Thank you for your suggestion. In the Discussion section (Limitations) of this article, we mentioned that studies on minocycline-containing eradication regimens are still lacking and involve relatively few countries and regions. In the future, there is a necessity to conduct large-sample, multicenter RCT studies in more countries and regions to further determine its eradication efficacy, safety, and so on. Based on your suggestion, we have added the country distribution in the Discussion (Limitations) section, please refer to it.