

Answering Reviewers

Name of Journal: World Journal of Gastroenterology

ESPS Manuscript NO: 31866

Manuscript Type: Retrospective Study

Title: Association of obesity and Helicobacter pylori infection: a retrospective study

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Dear Editors and Reviewers,

We appreciate your assistance in reviewing our manuscript (ESPS Manuscript NO: 31866) and we also appreciate the reviewers' comments to improve our manuscript. We have revised and formatted the manuscript as required. We had also addressed the reviewers' comments point by point in the response to the reviewers' comments. I hope the revision of the manuscript will be published in the **World Journal of Gastroenterology**. The revised sections are marked in red in the paper. The main revisions and responses to the reviewers' comments are as follows.

Response to the reviewers' comments

Reviewer's code: 01136482

- Insert the complete acronym at the first time it is reported in the text (e.g. BMI)

Response: Thanks for the comments by the reviewer. We have added the complete

acronyms in the revised manuscript.

- Methods section: please added the country were the study was performed (China)

Response: Thanks for the suggestion. We have added in the method part in the revised manuscript.

- Methods section: i sugest to include in the analysis the value of insulin resistance, that is linked with obesity

Response: Thanks for the suggestion by the reviewer. In our study, as to the retrospective study, we did not get the data about the insulin resistance. Therefore, we cannot perform the analysis of value of insulin resistance. We have added the limitation in the discussion part in the revised manuscript.

- Discussion section: Zhang et (2015), reported opposites data on the association between obesity and Hp. One of the possible discordance in this conclusion can be the different population analyzed, and/or the different methods to made diagnosis. Please discuss these points. One more hypothesis on this association ca be the increased in intestinal permeability, and the role of gut microbiota to induce insulin resistance and liver steatosis (e.g. Abenavoli et al. Med Hypotheses. 2013; Upala et al. Eur J Gastroenterol Hepatol. 2016).

Response: Thanks for the comments and constructive suggestions. We have added this hypothesis and the related reference in the discussion part in the revised manuscript.

Reviewer's code: 00039368

This is a well designed, performed and written retrospective clinical study for the evaluation of association between H. pylori infection and obesity in the population in China. The authors investigated altogether 3039 subjects from 16462 subjects initially

participated in the health examination in the hospital. In all recruited subjects a large spectrum of laboratory tests and estimation of *H. pylori* status using ELISA was performed. The authors give a sufficiently clear overview about the study background and raised clearly the aim of the study, which is fulfilled. The statistical analysis was specified sufficiently well. The material studied is large and fully allows to draw the conclusions. The Results are presented clearly and have been discussed well. The 3 Tables and 3 Figures of high quality give a good overview about the results. The authors found that the *H. pylori* infection was not associated with overweight or obesity in studied Chinese population. The interesting point of discussion was the possible effect of *H. pylori* infection on leptin and ghrelin secretion which could protect against intake of large amount of calories in these patients. However the authors have not examined the ghrelin and the leptin level in *H. pylori* positive and negative persons in the present study.

Response: Thanks for the comments and suggestions by the reviewer. As the study was the retrospective study, we cannot design and get the information of ghrelin and the leptin in *H. pylori* positive and negative persons in the present study. We will perform the examination of the levels ghrelin and the leptin in the two groups to explore the association among the *H. pylori* infection and the levels of ghrelin and leptin.

Reviewer's code: 00183445

The work concerns the evaluation of the relationship between obesity and *H. pylori* infection. In the introduction, the Authors emphasized that obesity in recent years is a growing problem. They pointed out that infectious agents can promote the obesity. One of the suspected factors is *H. pylori*. However, the correlation is not clear. Attention was paid on the contrasting results. The research was observational and retrospective. The occurrence of obesity and changes in BMI have been assessed in the context of *H.*

pylori infection. To analyse the statistical significance of the results the advanced statistical methods have been applied. In total 16462 individuals were included in the study and in real study participated 3039 subjects. Although the study is interesting in my opinion, the assessment of H. pylori infection raises some questions. Serological testing for the presence of anti-H. pylori IgG and IgM does not indicate a current infection. It shows the exposure to these bacteria but not infection. Important would be IgA antibodies, which indicate chronic infection. However, the assay of choice is rather urea breath test. In the project, just such a study should be done.

Response: Thanks for the comments and suggestions by the reviewers. Due to the equipment in the hospital, we did not perform the urea breath test. The method in the study may have the bias on the results. We have added the related limitation in the discussion part in the revised manuscript.

I also have some comments to the Discussion. Interesting information is that H. pylori infection due to effects on leptin and ghrelin protects against intake of larger amount of food by the patients. However, this aspect is poorly described, without citations of the original research.

Response: Thanks for the comments by the reviewer. We have added the related contents and reference in this part in the revised manuscript.

Reviewer's code: 00227386

Helicobacter pylori infection has been associated falsely with many other disorders apart from peptic ulceration and gastric cancer and this paper shows that there is no evidence for a link with obesity. It takes advantage of a unique access to the records of 16462 patients in the Aerospace Hospital in Beijing of whom 3039 had evidence of H pylori infection and were followed up one year later. The paper is well written except that the English in places is not clear and the idiom in places needs revision. For instance, 'obesity' is a noun and the adjective is 'obese', In the Abstract on page three,

line 10, the sentence should read “The overall prevalence of H pylori -----”and likewise on line 11 in the Introduction. Again, on page 5, line 15 in Material and Methods, it should read “year 2013 from the same population”.

Response: Thanks for the comments by the reviewer. We have corrected this errors and polished the whole article by the AJE company.

The Tables and Figures are satisfactory except that it needs to be made clear that Table 3 refers to the same group as in Table 2. There is no need for the word ‘cohort’ in the caption.

Response: Thanks for the suggestions. We have deleted the cohort word and added the note in the Table 3.

One weakness is that the diagnosis is based only on the Elisa Test and there is no information relating to patients who had been eradicated of H pylori, but this is mentioned in the text.

Response: Thanks for the comments and suggestions by the reviewers. The method in the study may have the bias on the results. We have added the related limitation in the discussion part in the revised manuscript.