Reviewer's report

Title: Serum pepsinogen levels are valuable markers for the diagnosis of gastric diseases in Chinese

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Reviewer: Nayoung Kim

Reviewer's report:

This manuscript titled “Serum pepsinogen levels are valuable markers for the diagnosis of gastric disease in Chinese” has many troublesome points that must be clarified.

Major comments:
1. Although this is a first study about pepsinogen levels of Chinese Han people in mid-south China, comparing with previous other studies, the sample size is too small. Just 82 gastric cancer patients and 34 healthy controls were enrolled and this is the major limitation of this study. And Furthermore, the authors do not state about the limitations clearly.

2. The title “Serum pepsinogen levels are valuable markers for the diagnosis of gastric disease in Chinese” is somewhat conclusive. And all enrolled subjects are Han people who live in local area of China, Hunan Province, therefore this data are not represent the whole China population. This is another limitation of this study.

3. How many subjects underwent gastric biopsy and why the authors do not check the H. pylori status of the subject?

4. As the authors said in the introduction, pepsinogen levels are affected by many factors such as the area, race, age, gender, Helicobacter pylori infection and so on. Why the authors do not take these factors into account?
   For example, the result in Table 1 shows that PG I level and PG I/II ratio are significantly lower in patients with gastric cancer than in the controls and non-atrophic gastric group. However, the authors do not consider the patient’s age and H. pylori infection status. Is this a real cancer effect? PG I/II ratio can also decrease in H. pylori positive patients.
   You must present the baseline characteristics of each group before you compare with each group.

5. It needs correction of English by native speaker.

Minor comments
1. There many spacing errors, typing errors in this manuscript.
   1) For example (spacing errors)
In abstract: p<0.001 (x) à p < 0.001 (O)
In Method, Result and Tables 52.3±12.3 (x) à 52.3 ± 12.3 (O)
n=36 (x) à n = 36 (O)
2) For example (Typing errors)
Page 4, line 7, 36 healthy controls à 34 healthy controls
Page 5, line 13, 53 cases of NAG à 55 cases of NAG

2. Please more details descriptions about Figure 1.

3. In the title of Table 2, ‘accuracy’ is not appropriate. Please replace it with ‘frequency’.

4. In Table 2, the sum of subject in # 90 and > 90 are not equal to 142. And the percentage of the each groups are not correct. Please check it precisely.