Reviewer's report

Title: Proteome analysis of human gastric cardia adenocarcinoma by laser capture microdissection

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Reviewer: Yu-Ju Chen

Reviewer's report:

General

In attempt to identify potential biomarker and to elucidate the molecular mechanisms of gastric cardiac adenocarcinoma (GCA), this article by Zhang et al reports comparative protein profiling of malignant and nonmalignant gastric cardia epithelial cells procured by laser capture microdissection (LCM) from paired surgical specimens of human GCA. The results indicate that 15 proteins were up-regulated and 8 proteins were down-regulated in 2-DE map. Given the fact that the gastric cancer is among the top five most common malignant cancers in Asia countries and relatively high rate of related morbidity, the identification of potential biomarker will be important to improve diagnosis/prognosis in clinical setting. Most of the data were well presented with clear discussion on their implementation to GCA. The manuscript may be publishable in BMC cancer after some revisions and extensive English correction on grammar.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

A typical proteomic study aims to identify differentially expressed proteins, which helps delineation of disease mechanism. Although Table 1 shows the list of differentially expressed proteins, yet how much change in terms of fold-change is not clear in the table. The authors should use imaging software to calculate the average fold-changes and include the quantitative information in Table 1.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

There are numerous grammar errors throughout the manuscript. Substantial corrections are required to ensure readability. I suggest that the authors consult professional English editing service for corrections. Some of them are listed as follows:

Page 2:
? In this study, we used a comparative proteomic approach to analysis (analyze) the malignant and nonmalignant gastric cardia epithelial cells
? 27 spots corresponding to 23 proteins were consistently differential (differentially) regulated.

Page 3
? ……and the risk factors (are) quite different from HGC
? The annual incidence of GCA is 50/100000, in several regions is high to 190/100000 in China (and may be as high as 190/100000 in several regions of China)

Page 5
? immunohistoch- emical (immunohistochemical)

Page 8
? followed by destained (destaining).....

Page 11
? Although the image analysis showed that these 2-DE maps were reproducible, there are slight differences among samples involving the intensity and the number of spots. (there were slight differences in the intensity and the number of spots)
Discretionary Revisions (which the author can choose to ignore)

The 2DE results revealed 15 commonly over-expressed protein and 8 down-regulated proteins compared to the normal tissue pairs. The clinical data shown in Table 1 indicate that three classes of tissues, moderately differentiated, well differentiated and poorly differentiated, were studied. Is there any inter-group correlation of disease stage with the fold-change or proteins? Furthermore, a heap map of all the differentially expressed proteins for the intra-group correlation may be helpful. The information will gain understanding for carcinogenesis mechanism.

What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
'I declare that I have no competing interests'