Reviewer's report

Title: The significance of preoperative serum carcinoembryonic antigen levels in the prediction of lymph node metastasis and prognosis in locally advanced gastric cancer: A retrospective analysis

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Reviewer: Chunwei Peng

Reviewer's report:

The study is closely combined with clinical practice and has certain value. However, some problems need to be further corrected:

1. In the first part of Results, the authors declared that the sensitivity and specificity of CEA for predicting LNM were 57% and 81.5%, respectively. From the perspective of tumor biological behaviors, the first step is the occurrence of gastric cancer, and the second step is the progression of gastric cancer with lymph node metastasis. Therefore, it seems that the authors should first test the sensitivity and specificity of CEA in predicting gastric cancer. If CEA is not so sensitive and specific in the diagnosis of gastric cancer, it is impossible to predict lymph node metastasis with such high sensitivity and specificity.

2. The Normal reference values for CEA, CA199, and CA125 were assumed to be 3.4ng/ml, 37U/ml, and 35U/ml, respectively. CEA > 3.4 is abnormal, and conclusion showed that CEA > 3.21 may lead to lymph node metastasis. That is to say, some people with 3.21 < CEA < 3.4 need to consider lymph node metastasis even if CEA is normal. So what is the significance of setting the normal range of clinical setting? Should we consider changing the normal range in clinic? For example, CEA > 3.4 indicates a high degree of suspicion that the patient has cancer, while CEA > 3.21 means that the patient needs to have lymph node metastasis. This is contradictory.

3. The author's research ideas and research population should be adjusted. Firstly, the predictive value of CEA in the diagnosis of gastric cancer should be confirmed in the normal control population. Secondly, the cut-off point should be further analyzed in the abnormal population of CEA (> 3.4), and its predictive value for lymph node metastasis should be analyzed.
Are the methods appropriate and well described?
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Unable to assess

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No

Are the conclusions drawn adequately supported by the data shown?
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