Author’s response to reviews

Title: Low lymphocyte count and high monocyte count predicts poor prognosis of gastric cancer

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Editor Comments:

Editorial Comments:

First, I can't insert figures in the "respond to reviewers", so I uploaded supplementery materials with a "Answers for reviewers". As outlined by both reviewers, the study is well organized and is suitable for publication in general. Please revise the manuscript according to comments raised by both reviewers and provide step-by-step answer for each issue. The revised manuscript will be assessed by managing editor and if necessary by both initial reviewers.

Answer: Thank you very much. We are very pleased to be informed that the present study was suitable for publication in general.
Reviewer reports:

Theodoros Karantanos (Reviewer 1): This is an interesting retrospective study evaluating the impact of absolute number of peripheral blood cells in the prognosis of patients with gastric cancer. The authors showed that high neutrophils, monocytes and platelets and low lymphocytes are associated with worse prognosis in gastric cancer focusing on overall survival. Absolute lymphocytes and monocytes are the only independent factors. Absolute numbers are more useful than rates and I would agree that these correlations are important.

I have only a few relatively minor points:

Comment 1: Did the authors do any correlation with other outcomes (i.e Progression free survival), this may be particularly interesting in these patients with early disease? There is evidence that lymphocytes contribute to better GI tumors control following surgery.

Answer: Thank you very much for your suggestions. Indeed, this may be particularly interesting in these patients with early disease. Unfortunately, we did not record the data about progression free survival of patients after surgery. Only overall survival of patients was available. Hope for your understanding.

Comment 2: It seems that the predictive role of the absolute number of PBCs is important for stages II/III but not stage I. The number of stage I patients is not different to the stage II patients so I am wondering what is the explanation of this phenomenon by the authors?

Answer: Thank you very much for your suggestions. In our results, the absolute number of PBCs could predict the prognosis of stage II/III gastric cancer patients but not stage I patients. We think that the possible reasons are: 1) the prognosis of stage I gastric cancer patients are so good that the absolute number of PBCs could not distinguish the prognosis of patients. 2) The sample size of stage I patients was relatively small, which may result in disappearance of predictive ability of absolute number of PBCs for the prognosis of stage I patients. We think that the absolute number of PBCs may also could predict the prognosis of stage I patients based on larger populations. 3) Although after D2 gastrectomy, there may be still a small amount of tumor cells in the body. As a result, the lymphocytes and monocytes may oppositely act on the residual
tumor cells. Thus, the prognosis of patients may be influenced by the different levels of absolute number of PBCs. However, for stage I patients, the possibility of residual tumor cells in the body is relatively low. Therefore, the impact of lymphocytes and monocytes on stage I patients may be not obvious.

Li Wei (Reviewer 2): I appreciate the opportunity to review the manuscript entitled "Low lymphocyte count and high monocyte count predicts poor prognosis of gastric cancer". In this article, the authors demonstrated that High absolute count of neutrophil, monocyte and platelet, and low absolute count of lymphocyte were associated with poor prognosis of gastric cancer. Moreover, combination of lymphocyte and monocyte could further increase the predictive value for gastric cancer. Generally speaking, this investigation is well organized. However, some specific comments are listed below.

Comment 1: Some of the references are outdated, it will be better to cite the updated research results.

Answer: Thank you very much for your suggestions. The following references have been updated: No. 2, 3, 4, 8, 10, 16, 17, 18, 19, 20, 21, 23, 27, 28 and 29.

Comment 2: Patients were divided into three groups according to the levels of lymphocyte and monocyte. The group 2 means patients with high lymphocyte and high monocyte, or low lymphocyte and low monocyte, why do you put them together but not separate them into two groups?

Answer: Thank you very much for your suggestions. Because the overall survival of the two groups were comparable (high lymphocyte and high monocyte vs low lymphocyte and low monocyte), so we did not separate them into two groups. The overall survival analysis based on four groups were analyzed below. (Group 1: patients with high lymphocyte and low monocyte, Group 2: patients with high lymphocyte and high monocyte, Group 3: patients with low lymphocyte and low monocyte, Group 4: patients with low lymphocyte and high monocyte).
Elevated lymphocyte count was associated with improved prognosis of gastric cancer patients, and elevated monocyte count was associated decreased prognosis of gastric cancer patients. Thus, the impact of elevated lymphocyte count on the prognosis of gastric cancer patients may be offset by the impact of elevated monocyte count. This may explain the comparable overall survival between the two groups.