Peer Review File

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Reviewer A

In this study, the authors constructed a predictive model for postoperative infection complications in gastric cancer patients, and to evaluate their impact on prognosis. The researchers collected data from 571 patients who were admitted to the Affiliated People's Hospital of Ningbo University between 2014 and 2017, dividing them into an infection group (n=81) and a control group (n=490), based on the development of postoperative complications. The study identified significant disparities between the two groups in terms of age, diabetes, preoperative anemia, albumin level, gastrointestinal obstruction, and surgical approach. The infection group demonstrated a markedly higher mortality rate five years after the surgery. The predictive model highlighted, that age over 65 years, preoperative anemia, albumin below 30 g/L, and gastrointestinal obstruction as potential risk factors for postoperative infection. This model proved to be a useful tool in recognizing patients with a high risk of postoperative infection, potentially enhancing patient outcomes.
The authors are to be commended for choosing a compelling research topic.

However, the study fell short in considering several critical factors during data collection, which could undermine the core message concerning the evaluation and impact of infectious complications on prognosis. The nature of the procedures, whether exclusively curative or inclusive of palliative resections, is not specified, leaving ambiguity, especially in cases of gastrointestinal obstruction and/or bleeding. Likewise, the study did not indicate whether any multi-visceral resections were performed. Critical details such as the pTNM stage and the extent of lymphadenectomy (dissected lymph node count) were also conspicuously missing.
The long-abandoned practice of extended (48 hours) antibiotic prophylaxis raises concerns, while the type of antibiotic used and the frequency of administration should be noted. The study also overlooked perioperative blood transfusion, a factor known to significantly influence both infectious complications and oncological outcomes. Median follow-up time would have been a valuable addition to the analysis.
Reply 1: All patients enrolled in the present study received Radical Gastrectomy for Gastric cancer. We have added in the revised version. None patients received multi-visceral resections. Dissected lymph node count and blood transfusion have been added in the table 1. See page 4, line 130-131; page 4, line 121-122 and table 1. And all patients received 5 years follow-up time (Indicated in page 5, line 145-146).

The authors' decision to group all infectious complications as a single outcome is tolerable for

scientific curiosity, but perhaps not the most optimal approach. If the delay of adjuvant oncological treatment is one of the further focus, it may be worthwhile to investigate Clavien-Dindo III-IV complications. The alleged inclusion of patients with 30-day postoperative mortality, as indicated in Figure 1, prompts questions about the possible impact of infectious complications, such as leaks, on this mortality data. The examination of 5-year mortality data inclusive of these patients may not yield the most accurate insights. The study also did not discuss the frequency of adjuvant oncological treatment across the groups or the time to initiation of such treatment (to examine the potential delay of such therapy).

The use of 5-year mortality as an endpoint is quite strict. The authors might consider the application of a time-dependent model, such as Kaplan-Mayer estimates and a Cox regression. A second multivariate analysis including postoperative infectious complications as a factor could confirm its independent influence on survival. Disease-specific survival data could also be beneficial, as opposed to overall survival data. Given the known limitations of the Hosmer-Lemeshow test, the Akaike Information Criterion might have been a more effective measure of goodness-of-fit. The consideration of these additional elements could have improved the acceptable level of the area under the receiver operating characteristic curve.

Reply 2: We thanks for your feedback. However, due to the limited cases of patient enrolled in the infection group. We failed to divided it according to the Clavien-Dindo III-IV complications. And due to the limitations of this retrospective study, we failed to study some data in the present study. We have discussed this in the limitations. See page 8, line 251-254.

Overall, despite the suggestions for improvement, it is important to recognize and praise the authors for the remarkable work they have undertaken in this study. They have dived into an area of significant clinical importance, the findings from this study have the potential to enhance our understanding of postoperative infectious complications in gastric cancer patients.

Reply 3: We thanks for your positive feedback.

Reviewer B

This is an interesting and well written manuscript that established a prediction model of postoperative infection complications in patients with gastric cancer. I do not have further comments.

Reply 2: We thanks for your positive feedback.

Reviewer C

1. Please check if survival data is included in your study and revise Item 6 in the **Data Sharing Statement Form**.

6	When will data availability end?	Two years within the publication date, since the technique or survival data may be updated over time.

Reply: In table, we have provided the mortality at five years after the surgery. Thanks.

2. Check if "The" should be in capital form and unify it throughout the whole text.

8 1Gastrointestinal minimally invasive surgery department (Department of General
9 Surgery), The Affiliated People's Hospital of Ningbo University, Ningbo, China;

55 **Methods:** From January 2014 to December 2017, we retrospectively collected the
56 data of 571 patients with gastric cancer admitted to the Affiliated People's Hospital of
57 Ningbo University. The patients were divided into an infection group (n=81) and

Reply: We have revised the mistake. Thanks. See page 1, line 8-12.