Comment on "Predictive Postoperative Inflammatory Response Indicators of Infectious Complications Following Gastrectomy for Gastric Cancer"

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To the Editor:

I read with great interest the article by Ryohei Nishiguchi et al.[1], exploring the predictive potential of easily measurable factors including body temperature, white blood cell counts, and CRP on postoperative day 3, for postoperative infectious complications (PICs) in patients underwent curative gastrectomy. Although the predictive values were not so high (area under the curves: below 0.80), it is significant in that it can be immediately adapted to normal clinical practice.

Although the article by Nishiguchi et al.[1], did not analyze or discuss the impact of PICs on long-term outcomes[2], a recently reported preoperative easily accessible indicator—the age-adjusted Charlson Comorbidity Index (ACCI)—has demonstrated superior prognostic value compared to the original CCI in various cancers. In gastric cancer surgery, patients categorized by ACCI into low-, moderate-, and high-risk groups showed 3-year overall survival rates of 76.6%, 64.5%, and 54.6%, respectively, which is more predictive than the original CC. Similar results have been reported in lung cancer, where ACCI demonstrated better prognostic performance.

Another useful and simple preoperative indicator is hemoglobin level. Several recent studies have shown that preoperative anemia is associated with postoperative complications such as anastomotic leakage, pneumonia, prolonged hospital stay, and increased mortality[3]. Not only short-term outcomes, but also long-term outcomes are significantly affected by preoperative anemia[4]. Among reported preoperative predictive factors, anemia is notable for having available preventive strategies with considerable potential. Although the evidence is not yet conclusive, recent studies have highlighted the utility of intravenous ferric carboxymaltose in the perioperative management of iron deficiency anemia, particularly in reducing transfusion rates and promoting recovery in surgical patients[5,6]. The above two indicators mentioned could be easily obtained from history taking and routine blood tests. To better predict the risk of PICs, they might be efficiently combined with the three indicators mentioned in the article by Nishiguchi et al.,[1].

Several mechanisms have been proposed regarding the oncological impact of PICs. One involves tumor progression driven by pathogen-associated molecular patterns (PAMPs) via pattern-recognition receptors such as Toll-like receptors (TLRs), which are also present on cancer cells. For example, LPS from *H. pylori* and *E. coli* has been shown to promote proliferation of TLR4-positive gastric cancer cells through the LPS-TLR4 pathway[7]. Another mechanism is the delay or omission of adjuvant chemotherapy due to PICs, resulting in lower relative dose intensity and worse survival in gastric cancer surgery[8]. Furthermore, persistent inflammatory status induced by PICs has been suggested to be a cause of hypo-responsiveness to adjuvant chemotherapy[9]. Early initiation, intensified of chemotherapy, or anti-inflammatory strategy may help improve outcomes in patients who had PIC.

In conclusion, this study provides valuable insights into the prediction of PICs. Although the authors identified several easily accessible predictive markers,

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their predictive value was limited, and none were linked to effective interventions. Therefore, continued efforts are needed to identify more reliable and actionable predictors to enable safer surgical care for patients in the future.

Conflict of Interest: The authors declare that they have no competing interests.

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