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LETTER

Remark on "Establishment and Validation of the Risk Nomogram of Poor Prognosis in Patients with Severe Pulmonary Infection Complicated with Respiratory Failure" by Qiang et al [Letter]

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Dear editor

We reviewed Qiang et al's article titled "Establishment and Validation of the Risk Nomogram of Poor Prognosis in Patients with Severe Pulmonary Infection Complicated with Respiratory Failure" in the International Journal of General Medicine and applaud the authors on a successful publication.[1] The study involved 218 patients with severe pneumonia and respiratory failure. A novel risk nomogram model was constructed and had good discrimination and accuracy in predicting the prognosis of those patients, which may provide a basis for early identification and intervention at clinical risk and improve the prognosis.

We appreciate the authors for sharing their experience for the promotion of prognosis among the patients with severe pneumonia and respiratory failure. However, we would like to convey our perspective on this study and believe this study has some certain limitations that need to be addressed.

The study controlled for confounding factors like age, gender, smoking history, causes of pneumonia and type of pneumonia and excluded patients with obvious cardiac function, mental disease, other infectious diseases, pregnancy, and glucocorticoids used within 8 weeks. However, uncontrolled factors such as hemoglobin, c-reactive proteins (CRP) and procalcitonin (PCT) may fog the construction of nomogram of prognosis in patients with severe pulmonary infection and respiratory failure.

A prior investigation has demonstrated the prevalence of anemia among patients with community-acquired pneumonia and its association with an elevated 90-day mortality rate.[2] Therefore, individuals with anemia should be advised to take additional precautions to minimize their exposure risk to the pathogens. Physicians should be actively involved in closely monitoring anemic patients suspected of having Corona Virus Disease-19, and the presence of anemia should be considered a significant factor in future models for risk stratification.[3] Consequently, the association between hemoglobin levels and adverse outcomes may be influenced more by the underlying anemic condition.

A single-center study conducted in China explored the expression of PCT and CRP in patients with acute exacerbation of chronic obstructive pulmonary disease and pulmonary infection. The study revealed a substantial increase in the levels of CRP and PCT, which were closely correlated with pulmonary function.[4] Hence, these confounding factors that Qiang et al[1] did not take into account.

Lastly, this study exhibits several limitations in statistical analysis. Firstly, the study sample comprised only 218 patients, indicating a relatively small overall sample size that poses challenges in distinguishing between training and validation sets. Moreover, the study design was retrospective and conducted at a single center, necessitating the need for larger-scale, multi-center prospective investigations to further validate these findings. Additionally, the authors did not construct a decision curve analysis curve in this study, impeding the assessment of the nomogram's clinical utility.[5]

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In conclusion, I would like to express my gratitude to Qiang et al for their contribution to the expanding body of literature concerning the clinical implementation of the novel risk nomogram. Although it may currently be premature to recommend its usage as described in the paper, in an environment characterized by stringent control of preanalytical variables and enhanced instrument development processes, the nomogram may find increased utility in clinical settings.

Disclosure

The authors report no conflicts of interest in this communication.

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