Diagnostic Value of Preoperative Haemoglobin, Albumin, Lymphocyte and Platelet (HALP) Score in Predicting Tumour Budding in Colorectal Cancer

Sir,

We read with interest the article by Topal *et al.* which was recently published in the *Journal of College of Physicians and Surgeons Pakistan.*[1] It is very interesting research. However, we believe that the value of this article could be improved further if certain issues can be addressed. Firstly, we are wondering about the study design of this research, whether it falls under cross-sectional, case-control or cohort study. We believe it is too general when the authors said it is an observational study. The division of participants/patients was not described in detail. One question that needs to be answered is, "which one is the presence and absence of budding, group 1 or group 2?"

Secondly, in the methodology, the normality of data was analysed using the Shapiro-Wilk test. However, for a sample size of 50 and above, it is recommended to use the Kolmogorov-Smirnov test.[2] Besides, the post-hoc test is done when there are more than 2 groups to be compared. In addition, if there are more than 2 groups to be compared, one-way or two-way ANOVA (Analysis of Variance), or the Kruskal-Wallis test should be done, instead of an independent t-test or Mann-Whitney test in the given analyses.[3]

Thirdly, we foresee that the Table II presentation is slightly unkempt. The descriptions of categorical and numerical variables were mixed in the same column. The numerical data, namely the age, should have a separate column to indicate the mean and standard deviation (SD). It is similar to Table III, in which the variables namely tumour size did not portray properly with mean and SD in a separate column. In addition, the area under the ROC curve was only 54.6% which is interpreted as fail as the value is between 50-60, and almost the baseline of 50% to be interpreted as no discrimination (ability to diagnose patients with and without the disease or condition based on the test).[4,5] Further discussion should be performed, we believe.

COMPETING INTEREST:
The authors declared no competing interest.

AUTHORS' CONTRIBUTION:
AH: Original concepts and design, data acquisition, and drafting the manuscript.

SSSAR: Data analysis and interpretation.
FH: Drafting the 1st manuscript.
ADZ: Revising it critically for important intellectual content.
All the authors have approval the final version of the manuscript to be published.

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AUTHOR'S REPLY

Sir,

First of all, we would like to thank you for your interest in our article and for your efforts to contribute to its improvement. The design of the study is retrospective cohort study. As we clearly stated in the methodology, Group 1 patients were "budding absent" and group 2 patients were "budding present". The Kolmogorov–Smirnov test can be modified to serve as a good-

ness-of-fit test. In the special case of testing for normality of the distribution, samples are standardised and compared with a standard normal distribution. This is equivalent to setting the mean and variance of the reference distribution equal to the sample estimates, and it is known that using these to define the specific reference distribution changes the null distribution of the test statistic. Various studies have found that, even in this corrected form, the test is less powerful for testing normality than the Shapiro–Wilk test or Anderson–Darling test. [1] Yes, post-hoc testing is done when there are more than 2 groups to be compared. As we clearly stated in the methodolgy of our study, Bonferroni method being among Post-Hoc tests has been applied. You are right, a separate column could have been written as you stated in Tables II and III. But we thought it would disrupt the general order and confuse it. The tables seem complicated because the journal has a limitation on the number of tables. In the study, the diagnostic value of the HALP score was not sufficient to predict tumour budding. We have clearly stated this. Determining the optimal cut-off points for biomarkers requires further research, as the only way of achieving more accurate results related to their predictive power.

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