In Response

To the Editor:

We would like to express our gratitude for the contributive critics that had been made regarding our manuscript (1). Taking into account of the critics, the methodology applied in statistical analyses were reviewed by another expert biostatistician. In general, as long as we embrace the criticisms, not all statistical methodology applied were found to be inappropriate but, as it was pointed out by Du et al (2), they were in need for improvement. Worth to note that none of the statistical comparisons has changed from significant to insignificant or vice versa. As a result, with the application of the statistical methods proposed by Du et al, all of the findings in the present study were reconfirmed in terms of data analysis.

Firstly, according to whether the continuous variables were revealing normal distribution or not, they were reassessed by means of histograms, Q-Q plots, and Shaphiro-Wilk test. While the variable "age" revealed a normal distribution, the "weight" and "interval after surgery" variables were not showing Gaussian-distribution. Thus, the *P* value presented in the original Table 1 indicates the result of a t test, which was not indicated within the footnote, but because the comparison revealed non-equal variances in Levene's test, the *P* value should be corrected as 0.104. Additionally, not the mean but the median (1st – 3rd interquartile range) weight and interval after surgery of the cohort were 80 kg (50 – 110 kg) and 3.0 years (1.0 – 11.0 years), respectively. In respect thereof, the median interval after surgery in male and female patients were 2 years (1 – 8 years) and 4 years (1 – 10 years), respectively, of which the comparison with Mann Whitey U test result (*P* = 0.074) was true.

Secondly, we agree with the critique about the lack of statement defining which correlation coefficient analysis was used. The results presented in table 3 were found to be true which were performed using Spearman's correlation coefficient, hence the "interval after surgery variable was not revealing normal distribution. Similarly, the correlation coefficient and *P* values presented in the original Table 6 were found to be true that while a Pearson's correlation coefficient was used for age, a Spearman's correlation coefficient was used for weight.

Lastly, we totally agree with the authors in regards to the characteristics of the ordinal variables and their comparisons between group with more than 2 subgroups. From this point view, the statistical comparisons in the original Tables 4 and 5 were revisited using Kruskal-Wallis H test. The *P* values presented in the original Tables 4 and 5 were found to be < 0.001 each with χ^2 values of 37,998 (df = 3) and 40,48 (df = 3), respectively. In our opinion, it would have been better to make the comparisons in table 4 and 5 through reduction of the subgroups to a 2x2 table. For instance, the MRI findings would be simplified as less than and equal to mild including patients without fibrosis and more than and equal to moderate. A similar reduction-approach would be applied to the epiduroscopic fibrosis findings and the symptoms on admission variables. Furthermore, the Kruskal-Wallis H test was also applied to the comparisons in the original Tables 7 through 9. While the χ^2 values for the the original Tables 7, 8, and 9 were 39,375 (df = 4), 48,392 (df = 3), and 44,372 (df = 3), respectively, the *P* values for each comparison was < 0.001.

In conclusion, we would like to appreciate the contributions of Du et al (1), which led us an opportunity to correct our statistical results and improve the way the results were presented in the article.

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References

1. Guner D, Asik I, Ozgencil E, Peker E, ErdenMI. The correlation of epidural fibrosis with epiduroscopic and radiologic imaging for chronic pain after back surgery. *Pain Physician* 2021; 24:E1219-E1226.
2. Du B, Wu P, Amar A, Deng M. Comments on the correlation of epidural fibrosis with epiduroscopic and radiologic imaging for chronic pain after back surgery. *Pain Physician* 2022; 25:X-X.