Letter to the Editor

Importance of the Selected Cut-Offs for Serum Uric Acid and Lipids Levels

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We read with great interest the recently published article “*The prevalence of nonalcoholic fatty liver disease and relationship with serum uric acid level in Uyghur population*” by Cai et al. [1]. Authors have investigated the prevalence of nonalcoholic fatty liver disease (NAFLD) and the association of serum uric acid (SUA) level with NAFLD in Uyghur people. They concluded that SUA level was significantly associated with NAFLD, and the prevalence rate of NAFLD increased with progressively higher SUA levels. However, we think that there are some points that should be emphasized about this study.

Firstly, the cut-off value for fasting plasma glucose (FPG) was taken as 6.10 mmol/L in Table 5, while it was determined as 5.6 mmol/L in the section Diagnostic Criteria. Due to this difference, *P* value, determined by multivariate logistic regression analysis, may vary and even become meaningless while it was statistically significant.

Secondly, since total cholesterol (TC) is defined as the sum of HDL-C, LDL-C, and VLDL-C, it has to be technically higher than LDL-C. However, in Table 5 the same regression cut-off values were used for TC and LDL-C. This improper preference may lead to incorrect results in regression analysis. In addition, as can be seen in Table 6, authors included three lipid parameters (TC, TG, and HDL-C) into the multivariate logistic regression analysis. However, since these parameters are tightly correlated with each other, results, especially odds ratio and Wald value, can easily be affected. Adding or removing only a single parameter to multivariate logistic

regression analysis will change all of the results, due to the relative effect of each parameter.

Thirdly, in many studies, different diagnostic criteria for hyperuricemia were used for males (>7 mg/dL or >420 μ mol/L) and females (>6 mg/dL or >360 μ mol/L), as indicated in the original study [2–4]. However, this distinction was not taken into consideration when comparing the NAFLD group with non-NAFLD group in Table 2. 42.8% of non-NAFLD and 72.4% of NAFLD patients were male. This big difference of 29.6% may be the reason for the statistical significance. When patients were divided according to the gender, this significance may not be seen.

In conclusion, in multivariate logistic regression analysis included and removed parameters are highly important since the relative effect of each parameter is calculated in this analysis. It is also important to use the gender specific reference ranges for SUA.

Conflict of Interests

The authors state that there is no conflict of interests regarding the publication of this paper.

References

- [1] W. Cai, J. M. Song, B. Zhang, Y. P. Sun, H. Yao, and Y. X. Zhang, “The prevalence of nonalcoholic Fatty liver disease and

relationship with serum uric Acid level in uyghur population,” *The Scientific World Journal*, vol. 2014, Article ID 393628, 7 pages, 2014.

- [2] E. Sertoglu, C. N. Ercin, G. Celebi et al., “The relationship of serum uric acid with non-alcoholic fatty liver disease,” *Clinical Biochemistry*, vol. 47, no. 6, 383388 pages, 2014.
- [3] S. Petta, C. Cammà, D. Cabibi, V. di Marco, and A. Craxi, “Hyperuricemia is associated with histological liver damage in patients with non-alcoholic fatty liver disease,” *Alimentary Pharmacology and Therapeutics*, vol. 34, no. 7, pp. 757–766, 2011.
- [4] Z. Cai, X. Xu, X. Wu, C. Zhou, and D. Li, “Hyperuricemia and the metabolic syndrome in Hangzhou,” *Asia Pacific Journal of Clinical Nutrition*, vol. 18, no. 1, pp. 81–87, 2009.