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Author's Reply

Re: Comment on "The Clinical Importance of the Plasma Atherogenic Index, Other Lipid Indexes, and Urinary Sodium and Potassium Excretion in Patients with Stroke"

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Dear Editor,

It is important to identify risk factors for atherosclerotic diseases, especially stroke. In our study, we aimed to find an assistant biomarker in this field. As can be seen in Table 1, plasma atherogenicity index (PAI) (p=0.61) and high density lipoprotein (HDL) (p=0.14) values were found similar in our study and control groups [1].

Triglycerides (TG) / HDL logarithm is used in PAI calculation, units are milligrams per deciliter (mg/dL) [2]. Plasma atherogenicity index is calculated as the logarithm [log (TG/HDL-K) ratio] of the ratio of the plasma TG level measured in milligrams per deciliter to the high density lipoprotein (HDL) level. In our study, we state that we use deciliter milligram. Since the mmoL/L is not used in the calculation, it makes sense to claim that the values are high.

The conversion factor for HDL mg/dL x 0.0259= mmoL/L.
The conversion factor for TG mg/dL x 0.0113= mmoL/L.

In some studies in the literature, you can see that the PAI value is given by this unit and is close to our results. The important thing is to show which unit is calculated correctly. In the study by Kutlu et al. [3], the mean PAI value is 0.41±0.28; in the study by Khakurel et al. [4] they give a PAI range (-0.63-1.36); Aragon-Charris et al. [5] states 1.14±0.44 in the study group; as 0.95±0.46 in the control group. Our value in study group was 0.57±0.24; in the control group was 0.54±0.22. Study results are compatible with the literature. When calculated with different units of course, the given values will change.

The classification you mentioned according to the PAI cut-off value (low risk <0.11, medium risk 0.11-0.21, and high risk 0.21) is widely used in scientific research to determine the risk groups. But we did not classify groups according to PAI.

Since the multiplier factor of the HDL in the denominator (0.0259) is greater than the TG factor (0.0113), the PAI value would be lower when using mmol/L. According to the Log (Triglyceride/HDL) formula, each patient would have a PAI result of as low as 0.3602213206. The mean value will be as low as this value. However, this formula has been used in both study and control groups, and since the two groups are compared, it will not affect the statistical result.

Another issue was that HDL values were calculated incorrectly. The HDL value entered for each patient was based on the hospital laboratory data, one-to-one patient records were used.

Another issue was that the control group consisted of hypertensive patients. Hypertension is already a known risk factor for atherosclerotic diseases such as stroke. If our control group were consisted of healthy volunteers, we would inevitably see laboratory changes due to hypertension in the stroke group. Our study hypothesis is that stroke appears in one of two groups with similar age and gender distribution, and why not in the other. As it is understood from the title, can we find a laboratory parameter (biomarker) that predicts stroke risk in inderly? There are many risk factors that affect atherosclerosis and related diseases that cannot be ignored, the distinction of the two in the same patient is difficult.

Thank you for the positive and negative comments and contributions to our article. We will follow the same studies on the same area.

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