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## Heart &amp; Lung

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## Letter to the Editor: The atherogenic index of plasma as a predictor of mortality in patients with COVID-19

### Letter

To the Editor

The article "The atherogenic index of plasma as a predictor of mortality in patients with COVID-19" by Özge Turgay Yıldırım et al. has been read with great interest.<sup>1</sup> It was a pleasure to read such a well-written paper, and we commend the authors' extraordinary efforts. We agree with the conclusion of the article that the Atherogenic Index of Plasma (AIP) can be used as a biomarker for mortality in COVID-19 patients. As a result, patients with higher AIP values should be carefully monitored and treated. With this, higher triglyceride levels and lower total cholesterol, LDL-C, and HDL-C values are observed in COVID patients who died, which may be a result of the SARS effect of COV-2 on the lipid metabolism of the host subject. Nonetheless, it appeared that a few additional points would have made the article better.

In the first place, the authors should have mentioned that the AIP has been demonstrated to have a good predictive potential for ischemic heart disease as well, as this would have made the AIP a reliable and independent value for stratifying numerous cardiometabolic risks in COVID-19 patients.<sup>2</sup> Secondly, the ethnicity of the patients should have been indicated throughout the research, as this would have revealed more information about a diverse community. As a result, a research's logistic regression analysis showed that a moderate course of COVID-19 among Novosibirsk women is associated with BMI (odds ratio (OR) = 1.090, 95% confidence interval (95% CI) 1.019–1.166,  $p = 0.012$ ), and a severe course is associated with WC (OR = 1.041, 95% CI 1.001–1.084,  $p = 0.046$ ), compared to both mild (OR = 13.824, 95% CI 1.505–126.964,  $p = 0.02$ ) and moderate (OR = 11.579).<sup>3</sup> In addition, when calculating AIP, the unit of both triglyceride (TG) and high-density lipoprotein (HDL) levels should be mmol. However, the author used mg/dl units when calculating the AIP value. Additionally, the TG level is an accurate indicator of cardiovascular disease. Among other atherogenic LDL subtypes, small dense LDL (sLDL) exerts the greatest atherogenic effect.<sup>4</sup> The TG level corresponds to the sLDL level.<sup>5</sup> In determining atherogenic risk, the TG value is very significant. cLDL is responsible for endothelial dysfunction and the increased production of reactive oxygen radicals. Nonetheless, there is no evidence in the scientific literature that cLDL is more atherogenic than sLDL.

### Declaration of Competing Interest

None

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### References

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