Correlation of total serum HDL particles with a predictor of mortality risk in idiopathic pulmonary fibrosis

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To the Editor:

We read with great interest the article published in your journal by Barochia *et al*. [1]. The authors reported that the serum level of small high-density lipoprotein particles measured by nuclear magnetic resonance spectroscopy (S-HDLP$_{NMR}$) is negatively associated with death or lung transplantation in idiopathic pulmonary fibrosis (IPF) [1]. The finding is consistent with the protective activity of high-density lipoprotein (HDL) in tissue injury and fibrosis reported in previous studies [2–5].

Unfortunately, the lack of a significant difference in the serum level of S-HDLP$_{NMR}$ between the healthy subjects and IPF patients from the discovery and validation cohorts discourages its use as a marker in IPF. However, we noted that, unlike the serum level of S-HDLP$_{NMR}$, the serum level of total HDLP$_{NMR}$ was significantly decreased in the discovery cohort compared to the healthy controls, and that, in the validation cohort, the serum level of total HDLP$_{NMR}$ was significantly correlated with the Gender Age Physiology (GAP) index, a predictor of mortality risk (supplementary tables S1 and S2) [1, 6]. This observation suggests the potential usefulness of the serum level of total HDLP$_{NMR}$ as a marker in IPF. To support this assumption, however, it would be important that the authors clarify whether the total serum HDLP$_{NMR}$ level was significantly different between the validation cohort and healthy subjects and whether it was associated with a lower risk of death or lung transplantation at 1, 2 and 3 years after appropriate adjustments. These data were not provided in the study.

Furthermore, we are concerned about the results of the multivariable analysis described in table 2. According to the explanation detailed in the table, age and sex were included as variables in the multivariable analysis model to evaluate the correlation of S-HDLP$_{NMR}$ with forced vital capacity, 6-min walk distance, and GAP index. However, as the variables age and sex were used to calculate the GAP index, the analysis may be erroneous due to structural collinearity [7].

Addressing the above questions would help encourage and design future studies to assess the potential of HDLP$_{NMR}$ as a biomarker in IPF.

Shareable abstract (@ERSpublications)
Measurement of serum total HDL particles may be potentially useful as a biomarker in idiopathic pulmonary fibrosis https://bit.ly/3K7D3q6

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