

Correspondence

Reply

To the Editor:

We read with great interest comments from Wright and Brightling¹ regarding our original article evaluating the role of fibrocytes in chronic obstructive pulmonary disease (COPD).² Briefly, our main finding shows an increased number of circulating fibrocytes in patients with exacerbating COPD. From a methodological point of view, we used a previously published technique to measure blood fibrocyte levels using flow cytometry.³ However, Wright and Brightling hypothesized that fibrocytes might be lost during the 1-hour cell adhesion step used in this protocol. We do confirm that this is not the case because adherent cells are mostly monocytes (80% of adherent cells). As described previously by Wang et al.,³ we detected a low proportion of fibrocytes (<10% of total fibrocytes) within these adherent cells.

Wright and Brightling had another technical comment regarding PBMC density plating, which might modify fibrocyte proportion according to the Pilling et al.⁴ study. In our study, the total number of PBMCs was not statistically different between patients' groups. In addition, Pilling et al assessed fibrocyte proportion in different cell density conditions after 5 days of culture, whereas in our study, we assessed fibrocyte levels after an adhesion step of 1 hour only. It is therefore unlikely that cell density would have affected fibrocyte levels after such a short time of culture.

Regarding flow cytometry plots, we agree that fibrocytes represented a heterogeneous cell population, which was not a surprising result in fact. Indeed, previous work demonstrated that side scatter low cells contributed mostly to the final fibrocyte count.^{5,6} However, the biology of fibrocytes remains partly unknown and requires further investigations, in particular regarding their origin and development. Lineage-tracing and genetic-labeling methods using appropriate transgenic mice should shed light on the mechanism of fibrocyte determination during development, tissue maintenance, and repair.⁷ Whether the increase in circulating fibrocyte number is detrimental or beneficial to patients with exacerbating COPD is still unresolved. We just provide evidence that an increased number of fibrocytes was associated with an increased rate of death.² Again, further studies on mouse models and patients with COPD are required to further explore this fascinating area of research.

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