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Reply to Liu and Xiong

From the Authors:

We would like to thank Nuozhou Liu and Wei Xiong for their interest and suggestions on our paper (1). They provided some unique insights into early life tobacco exposure assessment and the mechanism between early life tobacco smoke exposure on lung cancer.

Cotinine, a metabolite of nicotine, which can be measured in serum, urine, or saliva, has been considered a reliable and useful biomarker for assessing tobacco smoke exposure and evaluating the dose–response relationship between tobacco exposure and lung cancer (2, 3). Compared with the advantages of cotinine, we still need to acknowledge that self-reported smoking status may tend to underestimate true smoking prevalence (4). However, most studies have observed that self-reported estimates correlate strongly with measured cotinine concentrations and show a similar ability with urine cotinine on the assessment of tobacco-related risks of disease (4–7). More importantly, if urine cotinine could not exhibit clear superiority over self-reported smoking in the associations, measurement of cotinine concentration may not always be feasible and effective in large-scale prospective cohort studies in which the costs and benefits need to be considered (4, 6).

As for taking the smoking status of the father during children's early life into consideration, secondhand smoke exposure and environmental tobacco smoke exposure were not available in the United Kingdom Biobank, which we have already stated in our limitations.

We completely agree that the mechanisms underlying the effect of early tobacco smoke exposure on the development of lung cancer are not limited to the epigenetic alterations (8, 9), DNA damage, or chromosomal deletions (10, 11) mentioned in our paper. Shortened telomere length may also be one of the mechanisms behind the impact of early life tobacco exposure on lung cancer progression, as suggested by Xiong and colleagues. To shed light on this process, we could examine the mediating role of telomere length in the association between early life tobacco exposure and lung cancer incidence and mortality in further studies. ■

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