Correspondence

Exhaled breath condensate eicosanoid levels in asthma: Still questioned

To the Editor:

We read with great interest the article by Kazani et al[1] who compared the levels of eicosanoid in exhaled breath condensate (EBC) in healthy controls and patients with asthma. The fact that cysteinyl-leukotrienes (Cys-LTs) in the EBC were undetectable appeared inconsistent with that in children with asthma exacerbations (mean, 12.7 pg/mL) and children with or without exercise-induced asthma (mean, 42.2 and 11.7 pg/mL).[2,3] We questioned the source of the observed variance, for it remained unknown whether a prolonged storage (2 years in patients with asthma vs 6 months in healthy controls) of specimens might reduce the bioavailability of Cys-LTs,[4] the markers readily decomposed by oxidants and transition ions. Curiously, leukotriene B_4 was measured in the EBC as a surrogate, which was established merely on the assumption that leukotriene A_4 hydroxylase and glutathione-S-transferrase were equivalently potent. If so, the Cys-LTs might have been rapidly metabolized by some unknown mechanisms; however, there should be a high level of leukotriene E_4, indicating accumulation of end products of Cys-LTs pathway. Alternatively, the specifically significant attenuation of Cys-LTs pathway could not be interpreted by the data set presented in the current study. However, the authors did not discuss the aforementioned findings. We therefore postulated whether 5-hydroxyeicosatetraeionic acid, an upstream surrogate marker of the leukotriene pathways, might be more reliable and preferable for the measurement in EBC, since the ELISA kits have also been commercially available and there have been studies reporting the levels in healthy subjects[5] and patients who had granulomatosis with polyangiitis.[6] It would be particularly revealing if the authors could demonstrate the profiles of 5-hydroxyeicosatetraeionic acid in healthy individuals and different severity of asthma, and compare with the level of leukotriene B_4 and leukotriene A_4. This might help determine the causes of diminished levels of Cys-LTs detected in the EBCs in this cohort.

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Disclosure of potential conflict of interest: The authors declare that they have no relevant conflicts of interest.

Editor's note: *There is no accompanying reply to this correspondence.*

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