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Title: The effect of smoking on the levels of cysteinyl leukotriene in exhaled breath condensate in asthmatics

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Body: Aim: Cysteinyl leukotrienes are the most important mediators in pathogenesis of asthma. The aim of this study was to assess the impact of smoking on the levels of LTD4 and LTE4 in exhaled breath condensate (EBC). Methods: Thirty smoker (Group I) and 29 nonsmoker (Group II) asthmatics and 29 healthy control (Group III) were included in the study. EBC (EcoScreen, Jager) was collected from all of the participants and pulmonary function tests (PFT) were performed too. All of the asthma cases were stable according to asthma control questionnaire. Levels of LTD4 and LTE4 were measured in EBC with ELISA. Results: The levels of LTD4 and LTE4 were shown in Table 1. When we compared the groups according to PFTs we determined statistically significant difference between Group I and III in FEV1/FVC, MMEF and MMEF%. There was a significant negative correlation between LTE4 levels and FEV1/FVC in Group I.

Leukotriene levels of the study groups

	Group I	Group II	Group III	p
LTE4 (pg/mL)	79.20±13.16	76.95±14.82	68.21±20.95	0.024
LTD4 (pg/mL)	66.52±39.10	46.74±34.75	45.02±26.99	0.027

*There was a significant difference between the Group I and Group III, Group II and Group III (p<0.05), however, there was no significant difference between other pairwise comparisons(p>0.05).

Conclusion: LTD4 levels were significantly higher in smoking asthma group than the other groups. This result suggests that LTD4 receptor specific blocker agents might be useful in smoking asthma patients and clinical studies are required in this issue.