EXHALED NITRIC OXIDE AND NASAL NITRIC OXIDE IN RELATION TO THE PATTERN OF SENSITIZATION

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Objective
The atopic status was reported to influence the levels of exhaled nitric oxide (FeNO) and nasal NO (nNO). The aim of this evaluation was to analyse FeNO and nNO with regard to atopic status and specific sensitization to perennial allergens.

Methods
Non-smoking first-year students (n=244) were evaluated within the frame of a longitudinal study (AllergoVet). Besides atopic status (sx1 ≥ 0.35 kU/L), specific IgEs to three inhalant perennial allergens, house dust mite (HDM, d1), cat (e1) and dog (e5), were determined outside the pollen season. FeNO was measured using NIOX chemiluminescence analyser. Sampling of nNO was performed by using passive aspiration during breath-holding.

Results
Ninety-eight students (40%) showed a positive atopic status. A sensitization to one, two or all of the perennial allergens (HDM, cat, dog) could be demonstrated in 46, 8 and 16 students, respectively. Medians of FeNO in non-atopic and atopic subjects without perennial sensitization were equal (13 vs. 13.5ppb, p=0.455). FeNO levels were higher in case of perennial sensitization (19ppb, p=0.0002). In perennial sensitized students a trend for higher FeNO levels with increasing degree of perennial allergen sensitization was observed (p=0.077). With regard to nNO, no differences could be detected when comparing non-atopic and sensitized students, irrespective of perennial sensitization.

Conclusion
FeNO and nNO are non-invasive markers of airway inflammation. Outside the pollen season, FeNO levels are associated with the presence and degree of perennial sensitization. Regarding nNO, no significant differences could be revealed.