P07. [106] The study of correlation between bronchial and alveolar NO level and clinical and biological characteristics of children with asthma

Best Poster

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Introduction

Asthma is a common disease with various phenotypes, characterized predominantly by chronic inflammation. Exhaled nitric oxide (NO) is currently used as a biomarker of airway inflammation in patients with asthma. However, the role of bronchial and alveolar NO (FENO and CANO) measurement in asthma phenotype has not been clearly demonstrated.

Objectives

To study the concentrations of FENO and CANO in Vietnamese children with asthma and their correlation with clinical, functional, and biological characteristics in these patients.

Methods

It was a prospective and descriptive study. One hundred and fifty-five children with asthma and 30 healthy control subjects were included. FENO, CANO, spirometry, blood eosinophil counts, and IgE quantifying were done for each study subject.

Results

The mean age of asthmatic children was 10 (6-15) years, with 65.3% of male. The concentration of FENO in children with asthma was 21 (1-113) ppb vs 8 (3-24) ppb in healthy controls ($p<0.05$). The concentration of CANO in asthmatic children was 5.4 (1.0-37.1) ppb vs 2.8 (1.0-10.9) ppb in healthy subjects ($p <0.05$). In asthmatic children with naive corticosteroid therapy, the concentrations of FENO in patients with mild severe asthma were significantly higher than who with severe asthma ($p<0.05$). There were no significant differences between FENO, CANO, and clinical features ($p>0.05$). There were weak correlations between FENO and FEV1 in atopic patients. In asthmatic children with corticosteroid treatment, there were no significant correlations between exhaled NO (FENO and CANO), atopy status, age of asthma onset, number of acute asthma exacerbations, level of asthma control, lung functional parameters (FEV1, FEV1/FVC, FEF25-75, and PEFR), blood eosinophil counts, and IgE levels.

Conclusion

Exhaled NO (FENO and CANO) measuring is useful for characterizing asthma phenotypes in children over 5 years old.