

599 Newly Diagnosed Asthma In The Elderly: Is It Really Different?

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RATIONALE: The objective of this study is to investigate the differences between elderly asthmatic patients (EA) and young asthmatics (YA) living in different areas of Turkey.

METHODS: A total of 1235 newly diagnosed adult asthmatic patients from 136 secondary or tertiary centers of different geographic locations took part in this study, and a standard questionnaire was applied from July 2012 to March 2013. Patients were divided in two groups as YA (age: 18-59) and EA (≥60). The differences in biometric parameters, pulmonary functions, allergic status, comorbidities, first given therapies were analyzed.

RESULTS: New onset asthma in the elderly is found 12%. Body mass index was found as 27.8 for YA and 29.4 for EA ($p<0.01$). Family asthma history was significantly higher in YA (36.8%) as compared to EA (18.7%) ($p<0.001$). FEV1% values were significantly lower in EA than YA ($p<0.01$). Atopy rate was found to be higher in YA than EA (49.1% vs 39.2%; $p=0.059$). The presence of any comorbidity was 63.2% and 51.3% in EA and YA, respectively ($p<0.01$). Hypertension, coronary disease, diabetes mellitus and gastritis coexisted in EA more frequently than YA (33.3%, 10%, 15.3%, 10% for EA and 8.4%, 1.8%, 4.3%, 5.2% for YA; $p<0.001$, $p<0.001$, $p<0.001$, $p<0.02$, respectively). High percentages of combined inhaled steroids with long acting beta agonists as first given therapy were noted as 72.5% and 84.7% for YA and EA, respectively.

CONCLUSIONS: YA presented higher atopy rate and family history of asthma, whereas EA had lower pulmonary functions and more frequent comorbid diseases.

600 Risk Factors For Acute Asthma In The City Of Esmeraldas, Ecuador

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RATIONALE: Despite the high asthma rates described in Latin America, risk factors for asthma in urban settings are not well established. We investigated risk factors for acute asthma in children presenting to a public hospital in coastal Ecuador.

METHODS: A case-control study was done at the public hospital in Esmeraldas City. Children aged 5-15 years old presenting to the ER with acute asthma were matched by sex and age to two asymptomatic controls. A questionnaire was administered and blood, stool, and nasopharyngeal swabs were collected. Spirometry (pre and post-bronchodilator) and Fraction of Exhaled Nitric Oxide (FeNO) measurements were also done.

RESULTS: Sixty cases and 119 controls were recruited. Eighty-two percent of children with acute bronchospasm were atopic, with a population attributable fraction of 69%. A history of bronchiolitis (AOR: 34.41, CI (95%): 2.81-421.9), atopy (AOR: 12.05, CI (95%): 1.80-80.99), and parental asthma (AOR: 7.66, CI (95%): 1.24-47.30) were associated with a greater risk of acute asthma while contact with animals (AOR: 0.08, CI (95%) 0.01- 0.57) decreased the risk. Forty percent of cases had a PCR-detected rhinovirus infection vs. 13.6% of controls ($p<0.001$). Cases had a higher bronchial NO flux (649pl/sec vs. 317pl/sec, $p=0.004$) than controls, but no significant difference in alveolar NO concentration (13.0ppb vs. 12.4ppb, $p=0.196$).

CONCLUSIONS: Acute asthma was strongly associated with atopy and rhinovirus infection in a poor urban population in coastal Ecuador. Future studies in this population will explore further the interaction between atopy and respiratory viral infections on the risk of acute asthma.

601 Serum Vitamin D Levels and Clinical Features Of The Disease In Children With Asthma Aged 5 –To 18 Years Old

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RATIONALE: We aimed to investigate the relationship between 25(OH) vitamin D and clinical features of the disease in children with asthma.

METHODS: Eighty-one asthmatic children (35 female, 46 male), aged between 5-18 years were enrolled into the study. Clinical findings of asthma, family history of atopy, allergy skin prick tests (SPT), pulmonary function tests, serum total IgE levels, peripheral blood eosinophil percentage were recorded and, asthma control level was assessed both by physician and by patient/patient's family. Blood samples were taken from all children for determination of vitamin D levels.

RESULTS: The mean of 25-(OH) vitamin D serum levels was 17.9 ± 8.3 ng/ml. Of the patients, only one (1.2%) had severe vitamin D deficiency (<5 ng/ml), 32 (39.5%) had deficiency (between the serum vitamin D levels of 5-15 ng/ml) and 19 (23.5%) had insufficiency (between the serum vitamin D levels of 15-20 ng/ml). There was no significant relationship between vitamin D levels and serum total IgE, peripheral blood eosinophil percentage, SPT, patient's treatment regimen and asthma control level. The risk of having more than one exacerbation was found to be significantly increased in patients with vitamin D deficiency ($p=0.05$).

CONCLUSIONS: There was vitamin D deficiency in more than half of the asthmatic children. While there was no significant relationship between vitamin D levels and asthma control level, the risk of having more than one asthma attack was significantly increased in asthmatics with low vitamin D levels. Asthmatic children with frequent attacks may be evaluated for vitamin D deficiency.