

European Respiratory Society Annual Congress 2013

Abstract Number: 4260

Publication Number: P1125

Abstract Group: 7.2. Paediatric Asthma and Allergy

Keyword 1: Asthma - mechanism **Keyword 2:** Children **Keyword 3:** Inflammation

Title: Serum leptin and adiponectin in obese and non-obese asthmatic school children: Relation to asthma control

Dr. Atqah 27223 Abdul Wahab atiqaw@yahoo.com MD , Dr. Muna 27224 Maarafiya dr_marafia@hotmail.com MD , Dr. Ashraf 27225 Soliman ATSOLIMAN@yahoo.com MD , Ms. Noura 27226 Younes nyounes1@hmc.org.qa and Dr. Prem 27227 Chandra pchandra@hmc.org.qa . ¹ Pediatric Pulmonary, Pediatric Endocrinology, 2Laboratory Medicine and Pathology, 3Medical Research Center, Hamad Medical Corporation, Doha, Qatar .

Body: Background: There is growing evidence of a positive correlation between asthma and obesity in children and adults. Leptin and adiponectin are produced by adipose tissue that regulates several metabolic and inflammatory functions. Purpose: To measure serum leptin and adiponectin concentrations in obese asthmatic (OA) and non-obese asthmatic (NOA) children, and to investigate the association between their levels in relation to asthma control. Methods: OA and NOA children, aged 7 to 14 years were enrolled in the study. The subjects were distributed into three groups according to their asthma control levels (well controlled, partial controlled and uncontrolled asthma). Body mass index (BMI) Z score, spirometry, IgE, serum leptin and adiponectin were measured. Results: Serum leptin levels in 29 OA were significantly higher compared to 31 NOA children (25.8 ± 11.1 vs 8.7 ± 11.1 : ($P < 0.001$)) and serum adiponectin in OA was significantly lower compared to NOA children (2.5 ± 1.2 vs 5.42 ± 2.93 : ($P < 0.001$)). Although not statistically significant, the uncontrolled group has serum leptin levels higher and serum adiponectin levels lower compared to well controlled and partial controlled asthma. Serum leptin levels demonstrated positive correlation and adiponectin demonstrated negative correlation with BMI. BMI Z score did not differ significantly among the asthma control groups. Conclusion: BMI Z score, leptin and adiponectin concentrations did not differ significantly among the asthma severity groups ruling out a significant effect of these variables on the severity of asthma control. A larger prospective study needs to be conducted for generalization and validity of the above findings.