

European Respiratory Society Annual Congress 2013

Abstract Number: 728

Publication Number: P4674

Abstract Group: 7.1. Paediatric Respiratory Physiology

Keyword 1: Sleep disorders **Keyword 2:** Inflammation **Keyword 3:** Children

Title: Sleep-disordered breathing and C-reactive protein in obese children and adolescents

Ms. Annelies 6022 Van Eyck annelies.vaneyck@ua.ac.be¹, Dr. Kim 6023 Van Hoorenbeeck kim.vanhoorenbeeck@ua.ac.be MD^{1,2}, Prof. Dr Benedicte 6024 De Winter benedicte.dewinter@ua.ac.be MD¹, Prof. Dr Jose 6025 Ramet jose.ramet@ua.ac.be MD^{1,2}, Prof. Dr Luc 6026 Van Gaal luc.vangaal@ua.ac.be MD^{1,3}, Prof. Dr Wilfried 6027 De Backer wilfried.debacker@ua.ac.be MD^{1,4} and Prof. Dr Stijn 6032 Verhulst stijn.verhulst@ua.ac.be MD^{1,2}. ¹ Laboratory of Experimental Medicine and Pediatrics, University of Antwerp, Antwerp, Belgium ; ² Department of Pediatrics, Antwerp University Hospital, Edegem, Belgium ; ³ Department of Endocrinology, Diabetology and Metabolism, Antwerp University Hospital, Edegem, Belgium and ⁴ Department of Pulmonology, Antwerp University Hospital, Edegem, Belgium .

Body: Sleep disordered breathing (SDB) is common among overweight and obese children. It is a risk factor for several health complications, including cardiovascular disease. Inflammatory processes leading to endothelial dysfunction are a possible mechanism linking SDB and cardiovascular disease. C-reactive protein (CRP) is a marker for cardiovascular risk and is independently correlated with obstructive sleep apnea syndrome (OSAS) in adults. Our goal is to evaluate the relationship between CRP and OSAS in overweight and obese children and adolescents. One hundred and twenty children were included in this study (85 controls, 20 mild OSAS, 15 moderate-to-severe OSAS). All subjects underwent polysomnography and a blood sample was taken to determine CRP levels. No significant differences were found in CRP between subjects with or without OSAS and no correlations were found between CRP and OSAS severity. On the other hand we did find a relationship between CRP and BMI ($r=0.21$; $p=0.015$) and between CRP and fat mass ($r=0.31$; $p < 0.001$) suggesting that CRP levels are correlated with the level of obesity but are not influenced by SDB in obese children and adolescents.