Pediatr Pulmonol. 2005 Dec;40(6):515-23.  Links

Comment in:
Pediatr Pulmonol. 2006 Nov;41(11):1108; author reply 1109.

Obstructive sleep-disordered breathing and fasting insulin levels in nonobese children.

Kaditis AG, **Alexopoulos EI**, **Damani E**, **Karadonta I**, **Kostadima E**, **Tsolakidou A**, **Gourgoulianis K**, **Syrogiannopoulos GA**.

Department of Pediatrics, University of Thessaly School of Medicine and Larissa University Hospital, Larissa, Greece.

A positive correlation of severity of sleep-disordered breathing with morning fasting insulin levels, which is independent of obesity, was reported in adults and obese children. We hypothesized that both severity of sleep-disordered breathing and relative body mass index predict fasting insulin and homeostasis model assessment (HOMA) index values in nonobese children with habitual snoring. One hundred and ten subjects with habitual snoring (median age, 6 years; range, 2-13 years) underwent polysomnography and measurement of morning fasting insulin and glucose levels. The HOMA index was calculated. Thirty children had an apnea-hypopnea index (AHI) >/= 5 episodes/hr (median, 7.8 episodes/hr; range, 5-42.3 episodes/hr), and 80 subjects had an AHI < 5 episodes/hr (median, 1.9 episodes/hr; range, 0.2-4.9 episodes/hr). Insulin and HOMA index values were similar in children with AHI >/= 5 episodes/hr (median insulin, 4.9 mU/l; range, 1.66-19.9 mU/l; and median HOMA, 1; range, 0.36-4.95) and in subjects with AHI < 5 episodes/hr (median insulin, 5.8 mU/l; range, 0.74-41.1 mU/l; and median HOMA, 1.3; range, 0.13-9.72) (P > 0.05). No significant correlations were identified between insulin or HOMA index values and any polysomnography indices (P > 0.05). When multiple linear regression was carried out, relative body mass index was a significant predictor of log-transformed insulin levels or HOMA index values, but AHI and percentage of sleep time with saturation <95% were not. In conclusion, contrary to findings in adults and in obese children, severity of sleep-disordered breathing is not a significant predictor of fasting insulin or HOMA index values in nonobese children with habitual snoring. (c) 2005 Wiley-Liss, Inc.

PMID: 16193477 [PubMed - indexed for MEDLINE]