Metab Syndr Relat Disord. 2010 Feb;8(1):33-8. doi: 10.1089/met.2009.0041.

Early evidence of increased risk for metabolic syndrome in young men with latent obstructive sleep apnea.

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Abstract

BACKGROUND: Obstructive sleep apnea (OSA) is characterized by a repetitive collapse of the upper airway during sleep and may affect as many as 1 in 5 adults. Although OSA appears to increase risk for metabolic syndrome in middle-aged adults, no data currently exist in a younger, preclinical cohort.

METHODS: Forty-five sedentary young men: 12 overweight with OSA (OSA), 18 overweight without OSA (NOSA), and 15 normal-weight without OSA (CON). Respiratory distress index (RDI) was determined using an at-home, unsupervised, portable polygraphy device. Total and subcutaneous abdominal fat (SAF) were quantified using dual-energy X-ray absorptiometry (DXA). Blood pressure was obtained manually via auscultation. Fasting triglycerides, glucose, and high-density lipoprotein cholesterol (HDL-C) concentrations were analyzed from whole blood using a commercial lipid profile kit.

RESULTS: The OSA group had 25% more SAF than the NOSA group ($P < 0.05$) and higher triglycerides (136.7 +/- 21.3 mg/dL versus 92.2 +/- 7.5, $P < 0.05$). RDI was directly related to fasting triglycerides ($R = 0.32$, $P < 0.05$) after controlling for SAF. The number of metabolic syndrome components was directly correlated to indices of adiposity, but not RDI. Using multiple linear regression analysis, triglycerides were the only independent predictor of RDI.

CONCLUSIONS: Results from this study demonstrate that unique physiologic and anthropometric abnormalities exist in young men with occult OSA, beyond those that are seen in uncomplicated obesity. These findings may indicate early pathogenesis of metabolic syndrome in these young men.

PMID: 19943797 [PubMed - indexed for MEDLINE]

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