Abstract

Title: Snoring is not associated with adverse effects on blood pressure, arterial structure or function in 8 year old children: The Childhood Asthma Prevention Study (CAPS)

Nathaniel S Marshall, Julian G Ayer, Brett G Toelle, Jason A Harmer, Craig L Phillips, Ronald R Grunstein, David S Celermajer, Guy B Marks

Objectives: To study the association between childhood snoring and cardiovascular risk factors.

Study Design: A population-based birth cohort, who had been participants in a randomised controlled trial of interventions to prevent asthma up to age five years, were assessed at age eight years. The presence and frequency of snoring was assessed by parent-completed questionnaire. We measured non-fasting serum lipoproteins, blood pressure, high sensitivity c-reactive protein, carotid artery intima media thickness (CIMT, by ultrasound), brachial pulse wave velocity (PWVb) and augmentation index (AIx, by applanation tonometry).

Results: Of 409 children whose snoring status was assessed at age 8 years, 317 had lipid and 386 had arterial structure and function measurements. Snoring was not independently associated with blood pressure, CIMT, or measures of arterial stiffness (all p>0.05)). Increasing snoring frequency was independently associated with lower HDL cholesterol (-0.032 g/dL per step, 95%CI -0.060 to -0.003) although the difference in HDL between snorers and non-snorers was not significant (p=0.052). An association of snoring frequency with PWVb differed according to BMI (p=0.03) was the reverse of that expected.

Conclusions: Overall, snoring was not independently associated with adverse effects on metabolic or vascular structure or function in 8 year old children.