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Left ventricular hypertrophy and abnormal ventricular geometry in children and adolescents with obstructive sleep apnea.

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Obstructive sleep apnea (OSA) has been shown to be an independent risk factor for cardiovascular disease in adults. However, there are severe limitations in the extent to which the cardiovascular consequences of OSA are being studied in children. To investigate the echocardiographic changes in children with OSA, right and left ventricular (RV, LV) dimensions and LV mass index and geometry were measured in 28 children with OSA and 19 children with primary snoring (PS). The study showed that LV mass index and relative wall thickness were greater in the OSA group compared with those with PS ($p = 0.012$ and $p < 0.0001$, respectively). An apnea-hypopnea index of more than 10 per hour was significantly associated with RV dimension above the 95th percentile (odds ratios, 6.7; 95% confidence interval, 1.4-32) and LV mass index above the 95th percentile (odds ratios, 11.2; confidence interval, 1.9-64). Abnormality of LV geometry was present in 15% of children with PS compared with 39% of children with OSA. We conclude that OSA in children is associated with increased LV mass.

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