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## **Twenty-four-hour ambulatory blood pressure in children with sleep-disordered breathing.**

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Obstructive sleep apnea causes intermittent elevation of systemic blood pressure (BP) during sleep. To determine whether obstructive apnea in children has a tonic effect on diurnal BP, 24-hour ambulatory blood pressure was obtained from 60 children with mean age of 10.8 +/- 3.5 years. Thirty-nine children had obstructive apnea and 21 had primary snoring. Children with obstructive apnea had significantly greater mean BP variability during wakefulness and sleep, a higher night-to-day systolic BP, and a smaller nocturnal dipping of mean BP. Variability of mean arterial pressure during wakefulness was predicted by the desaturation, body mass, and arousal indices, whereas variability during sleep was predicted by apnea-hypopnea and body mass indices. Nocturnal BP dipping was predicted by the desaturation index. There were no significant differences in systolic, diastolic, or mean arterial BP during sleep between the groups. Diastolic BP during wakefulness was significantly different between the groups and correlated negatively with apnea-hypopnea index. We conclude that obstructive apnea in children is associated with 24-hour BP dysregulation and that, independent of obesity, the frequency of obstructive apnea, oxygen desaturation, and arousal contributes to abnormal BP control.

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