SLEEP APNEA AND HYPERTENSION

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BACKGROUND

Systemic hypertension was recognized in early descriptions of the disease as a common feature of the sleep apnea syndrome. (1)

The exact role of sleep apnea syndrome in the hypertensive patient remains under study.

EFFECTS OF APNEA AND HYPOXEMIA

There is significant elevation of sympathetic activity with apnea. (2)

Patients with upper airway obstruction have elevated sympathetic activity.
Patients with sleep apnea have elevated sympathetic activity while sleeping and while awake.

Sleep apnea patients have blunted baroreceptor sensitivity. (3)

Patients with sleep apnea have an exacerbated blood pressure response to hypoxemia when compared to non-sleep apneic controls. (4)

Animal models studies have demonstrated that repetitive airway obstruction produces sustained hypertension. (5)

WISCONSIN SLEEP COHORT STUDY (6)

Risk of hypertension is increased when sleep apnea present.

If Apnea Hypopnea Index of >15 at baseline (apnea index = number of apneas and hypopneas occurring per hour) then
At four year follow-up evaluation the risk for hypertension was three times higher than those with <15 per hour.

Individuals with apnea hypopnea index of >5 had significantly elevated blood pressure when compared with those with and index of <5.

JOINT NATIONAL COMMITTEE ON PREVENTION, DETECTION, EVALUATION AND TREATMENT OF HIGH BLOOD PRESSURE - 2003 (7)

Reports sleep apnea syndrome first on the list of identifiable causes of hypertension.

EFFECTS OF TREATMENT

Successful treatment with Nasal CPAP will may lower blood pressure in hypertensive patients with sleep apnea syndrome. (8)

CONCLUSIONS

Sleep apnea syndrome is major contributing factor in many patients with hypertension

(Scottsdale Sleep Center - Sept 2003)
Sleep Apnea and Hypertension - References


Sleep Apnea and Cardiovascular Diseases - Other references of interest


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