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**Title:** Long term reduction of blood pressure in young and elderly hypertensive patients with sleep apnea syndrome treated with CPAP

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**Body:** INTRODUCTION: Guidelines added obstructive sleep apnea(OSA) as important cause of hypertension(HT) but the reduction of blood pressure(BP) values under CPAP treatment is controversial,without long term follow up. AIM: We studied difference between young(< 60 years) vs elderly(≥ 60 years) patients with OSA and HT regarding BP variation, measured by sphygmomanometer and ambulatory blood pressure monitoring(ABPM), after 3 and 6 months of CPAP treatment. METHOD: We applied exclusion criteria(hypoventilation syndromes, respiratory dysfunctions, other secondary HT, modifying treatment during study, noncompliant patients) to 96 patients(Chi test,T-test). RESULTS: We studied remaining 30 patients:14 young ,16 elderly, without significant differences regarding AHI and somnolence. Diastolic BP(DBP) measured by sphygmomanometer was significantly lower after CPAP treatment in young (from 85.0±12.5 to 71.4±6.9mmHg,p=0.028 after 3 months, to 70.0±7.0mmHg,p=0.038 after 6 months),without differences regarding systolic blood pressure(SBP). Elderly had a reduction in SBP (knowing to be connected with age) and DBP after 3 months(from 141.2±8.3 to 123.6±15.9mmHg,p=0.019, respectively from 80.0±9.2 to 66.2±7.4mmHg, p=0.006),without any differences after 6 months of CPAP. Measured by ABPM elderly patients had a significant decrease only of minimum nocturnal values of DBP from 55.3±6.3 to 47.5±5.7mmHg after 3 months, p=0.021. There was no modification regarding the dipper pattern at 3 or 6 months. CONCLUSION: There is a significant reduction in DBP in both young and elderly OSA patients under CPAP treatment measured by sphygmomanometer only, more pronounced in the first 3 months.