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Title: BP control in OSA patients is independent of antihypertensive (AH) regimen

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Body: Approximately 50% of patients with OSA are hypertensive. Despite CPAP use concomitant AH therapy is still required. This prospective cohort study aimed to investigate a hypothetical association between ongoing AH regimen and BP control in OSA patients. 283 patients were enrolled and underwent a PSG, 24-h ABPM and filled a questionnaire. 4 weeks after CPAP titration, the device data were checked and patients with compliance underwent repeated 24-h ABPM (n=101). Logistic regression models were used and the level of significance $\alpha=0.05$ was considered. Patients were mainly male (71.7%) with a mean age of 57.6 ± 12.4 years and median AHI was 16.6/h. According to medication and/or 24h ABPM, 81.0% were hypertensive and 46.2% presented a non-dipper BP profile. 33 different AH regimens were found. At baseline, 51% of the patients under no AH medication and 61% of patients under AH medication had uncontrolled BP. The AH regimens and the number of AH drugs were not associated with BP control ($p=0.847$ and $p=0.991$). After CPAP adaptation, these results remained ($p=0.875$ and $p=0.678$) and a decrease in mean night-time SBP and DBP ($p=0.002$ and $p=0.012$) was observed. However, this decline does not allow the reclassification from uncontrolled to controlled BP in a significant number of patients ($p=0.332$). In a multivariable study, OSA severity and 24 h BP profile were identified as independent predictors of BP control after CPAP adaptation (OR: 3.0, $p=0.038$; OR: 2.8, $p=0.014$). Our results confirm that, although CPAP improves 24-BP profile is not enough to warrant a suitable BP control in these patients. Finally, this work shows for the first time that BP control is independent of both AH regimen and number of AH drugs.