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Title: Hypertension among obstructive sleep apnea patients compared to controls. Two year change after starting treatment with CPAP

Bryndis 3429 Benediksdottir brynben@hi.is MD ¹, Thorarinn 3430 Gislason thorarig@landspitali.is MD ¹ and Erna Sif 3431 Arnardottir ernasif@landspitali.is ¹. ¹ Department of Respiratory Medicine and Sleep, Medicine, Reykjavik, Iceland, 108 .

Body: Objectives: To explore the prevalence of hypertension among patients with untreated OSA and again two years after starting CPAP treatment compared to the prevalence of hypertension in a sample (n=758) from the general population (www.boldcopd.org). Methods: The OSA patients (n=822) were newly diagnosed with moderate or severe OSA (665 males, 157 females). The mean (\pm SD) age: 54.9 ± 7.6 years and mean body mass index 33.5 ± 5.7 kg/m². Two years later, 90% of the patients (n=742) came for follow up. Subjects were defined as having hypertension if they had been diagnosed by a doctor and were on antihypertensive medication. Results: At baseline 45.7% of the OSA had hypertension compared 245 (33%) among the 758 controls ($p < 0.001$). The difference in prevalence was highest when comparing the younger age groups 40-60 years, but similar among the older ones. At the two year follow-up altogether 46.2% fulfilled the same criteria on medically treated doctor diagnosed hypertension. Among the OSA patients those with hypertension were older, more obese, had more severe OSA (apnea hyponea index 50 ± 21.6 compared to 43.3 ± 19.7 ($p = 0.01$)). The majority (87.7%) of those with hypertension at baseline did also have hypertension at follow up. Hypertension was more likely to improve among those that were using CPAP in the younger ones ($p < 0.05$). Subjects with hypertension at baseline were more likely to be using CPAP at follow up. Conclusion: Hypertension is comparatively more common among young OSA patients and with severe OSA and these patients are also more likely to be CPAP users at follow up. Hypertension is more likely to improve among those who are using CPAP.