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Title: Prevalence of arterial hypertension in obstructive sleep apnoea (OSA) patients – Impact of diabetes and obesity

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Body: Untreated OSA is a risk factor for cardiovascular morbidity. Arterial hypertension is one of the most frequent OSA complications. The aim of study was to compare hypertensive OSA pts and subjects without arterial hypertension. We studied 1164 OSA pts, mean age = 56.4±10.4 years, with obesity (BMI = 34.2±6.4 kg/m²) and moderate to severe disease (AHI = 39.6±21.7). We found 307 normotensive OSA pts (26.4%) and 857 OSA pts with arterial hypertension (73.6%). Comparison of both groups is shown in the table.

Variable	Normotensive OSA	Hypertensive OSA	p
Age (years)	53.2±11.6	57.5±9.7	p<0.0001
BMI (kg/m ²)	31.5±5.7	35.1±6.4	p<0.0001
AHI (n/h)	37.2±22.2	40.5±21.4	NS
T90 (%)	21.3±27.4	28.3±29	p=0.003
NT-proBNP (pg/ml)	108.4±268.1	155.8±305.4	p=0.049
Coronary artery disease (CAD) (n/% of pts)	39 (12.7%)	223 (26%)	p<0.0001
Atrial fibrillation (AF) (n/% of pts)	16 (5.2%)	80 (9.3%)	p=0.02
Heart failure (HF) (n/% of pts)	17 (5.5%)	114 (13.3%)	p=0.0002
Stroke (S) (n/% of pts)	6 (2%)	38 (4.4%)	NS
Diabetes (n/% of pts)	25 (8.1%)	224 (26.1%)	p<0.0001
Hyperuricaemia (n/% of pts)	55 (18.5%)	299 (35.3%)	p<0.0001

Logistic regression revealed that: diabetes (OR- 3.05; 95%CI – 1.88-4.95; p<0.0001), BMI > 30 vs ≤ 30 (OR- 2.34; 95%CI – 1.67-3.28;p<0.0001), NT-proBNP > 125 vs ≤ 125 pg/ml (OR – 1.85; 95%CI – 1.23-2.79;

p=0.003), hyperuricaemia (OR-1.83; 95%CI – 1.28-2.63; p=0.0009) and nocturia ≥ 2 vs < 2 (OR-1.50; 95%CI – 1.24-4.16; p=0.007) were independent predictors of arterial hypertension after adjusting for CAD, stroke, HF, AF, COPD, AHI > 30 vs ≤ 30 , T90 > 30 vs ≤ 30 . Conclusions: Arterial hypertension was very common in our group of OSA pts. The highest risk of arterial hypertension was related to diabetes and obesity.