European Respiratory Society
Annual Congress 2012

Abstract Number: 1908

Publication Number: P3819

Abstract Group: 4.2. Sleep and Control of Breathing

Keyword 1: Comorbidities **Keyword 2:** Sleep disorders **Keyword 3:** Apnoea / Hypopnea

Title: Correlations between cardiovascular diseases and diabetes in obstructive sleep apnoea (OSA)

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Body: Obstructive sleep apnoea is associated with disturbances in glucose metabolism and increased risk of type 2 diabetes. The aim of this study was to assess relations between OSA and diabetes. We studied 1164 OSA pts (876 males and 298 females), mean age = 56.4±10.4 years, AHI = 39.6±21.7, BMI = 34.2±6.4, mean SaO_2= 90.8±5.8%. Diabetes was found in 249 pts (21.4%). Comparison of OSA groups with- and without diabetes is shown in the table.

Variable	OSA (n=915)	OSA & Diabetes (n=249)	p
Age (years)	55.7±10.8	58.7±8.4	p=0.001
AHI (n/h)	38.6±21.4	43.6±22.4	p=0.009
Mean SaO2 (%)	91.3±4.6	89.3±8.3	p=0.0002
BMI (kg/m2)	33.4±6.2	37.2±6.3	p<0.0001
Epworth score (points)	11.2±5.7	11.7±6	NS
Coronary artery disease (n/% of pts)	174 (19%)	88 (35.3%)	p<0.001
Heart failure (n/% of pts)	77 (8.4%)	54 (21.7%)	p<0.0001
Arterial hypertension (n/% of pts)	633 (69.2%)	224 (90%)	p<0.0001
Atrial Fibrillation (n/% of pts)	75 (8.2%)	21 (8.4%)	NS
Stroke (n/% of pts)	26 (2.8%)	18 (7.2%)	p=0.001

Logistic regression analysis revealed significant correlations between diabetes and cardiovascular diseases and obesity (BMI > 30 vs ≤ 30 kg/m2).

Risk of Diabetes	Arterial Hypertension	BMI >30 kg/m2	Heart Failure	Coronary artery disease	Stroke
OR (95% CI) *	2.96 (1.86-4.69)	2.28 (1.46-3.57)	1.8 (1.14-2.82)	1.64 (1.15-2.34)	2.33 (1.17-4.63)
p	p<0.0001	p=0.003	p=0.01	p=0.005	p=0.01

*- Adjusted for AHI (>30 vs ≤30), COPD, atrial fibrillation, hyperuricaemia, T90 (>30 vs ≤ 30%)

Conclusions: Diabetes was frequent (>20% of subjects) in moderate and severe OSA patients. Cardiovascular diseases and obesity were the independent predictors of diabetes in this group.