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Title: Glucose metabolism abnormalities in obstructive sleep apnoea (OSA) patients

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Body: Obstructive sleep apnoea may be recognized a risk factor of diabetes type 2. The aim of this study was to assess an oral glucose tolerance test (OGTT) in OSA subjects. We studied 305 OSA pts [234 males (76.7%) and 71 females (23.3%)], mean age = 56.4±10.9 years, AHI = 42.2±20.9, BMI = 33.1±5.5 kg/m2). Impaired glucose tolerance (IGT) (plasma level ≥ 140 mg% after 2 hours of administration 75 g glucose) was found in 81 subjects (26.6%). Among them in 13 patients (4.3%) OGTT allowed to diagnose diabetes (glucose ≥ 200 mg%). Comparison of OSA patients with- and without IGT is shown in the table.

Variable	Normal OGTT N=224(73.4%)	IGT N=81(26.6%)	p
Age (years)	55.4±11.3	59.2±9.1	p=0.03
AHI (n/h)	41.1±20.6	45.1±21.6	NS
Epworth Sleepiness Scale	10.7±6	9.8±5.9	NS
mean SaO2 (%)	92.1±4.4	91.2±4.5	NS
minSaO2 (%)	75.5±11.7	73.5±11.6	NS
BMI (kg/m2)	32.7±5.8	34.2±4.6	NS
fasting glucose (mg%)	88.7±9.4	100.7±17.4	p<0.0001
HbA1c (%)	5.9±0.6	6.3±0.85	p=0.0006
Coronary artery disease (n/% of pts)	37 (16.5%)	12 (14.8%)	NS
Arterial hypertension (n/% of pts)	154 (68.7%)	70(86.4%)	p=0.002

Multiple linear regression analysis confirmed significant correlation between AHI (ß=0.13, p=0.04), age (ß=0.21, p=0.0002), min SaO2 (ß= -0.18, p=0.035) and IGT. Logistic regression revealed significant correlation between abnormal results of OGTT and arterial hypertension. Conclusions: Impaired glucose

tolerance was frequent in OSA subjects (near 30%). OSA patients with IGT were older and had higher prevalence of arterial hypertension. HBA1C is a good parameter of glucose metabolism in OSA patients.