

# OBSTRUCTIVE SLEEP APNEA, INCIDENT TYPE 2 DIABETES MELLITUS AND CARDIOVASCULAR RISK

## DIABETES, COMPLICATION AND THERAPY

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### OBJECTIVES

Obstructive sleep apnea (OSA) is a condition strongly associated with cardiovascular disease. Obesity is often related to both clinical problems and it is also a risk factor for incident type 2 diabetes mellitus (T2DM).

Aim. To assess cardiovascular risk among a cohort of patients with OSA in order to identify and optimize treatment of high risk patients.

### METHODS

Prospective study that included 72 patients with OSA under continuous positive airway pressure treatment. In all patients hypertension, T2DM, dyslipidemia, smoking status, and history of cardiovascular disease were assessed; blood pressure (BP), body weight and height, waist circumference and neck size were measured; and body-mass index (BMI) was calculated. Blood and urine samples were taken to evaluate fasting plasma glucose, cholesterol levels, glomerular filtration rate, microalbuminuria and HbA1c. T2DM was diagnosed with ADA criteria and SCORE was used to evaluate global cardiovascular risk and stratify high risk patients (score >5%) in non diabetics.

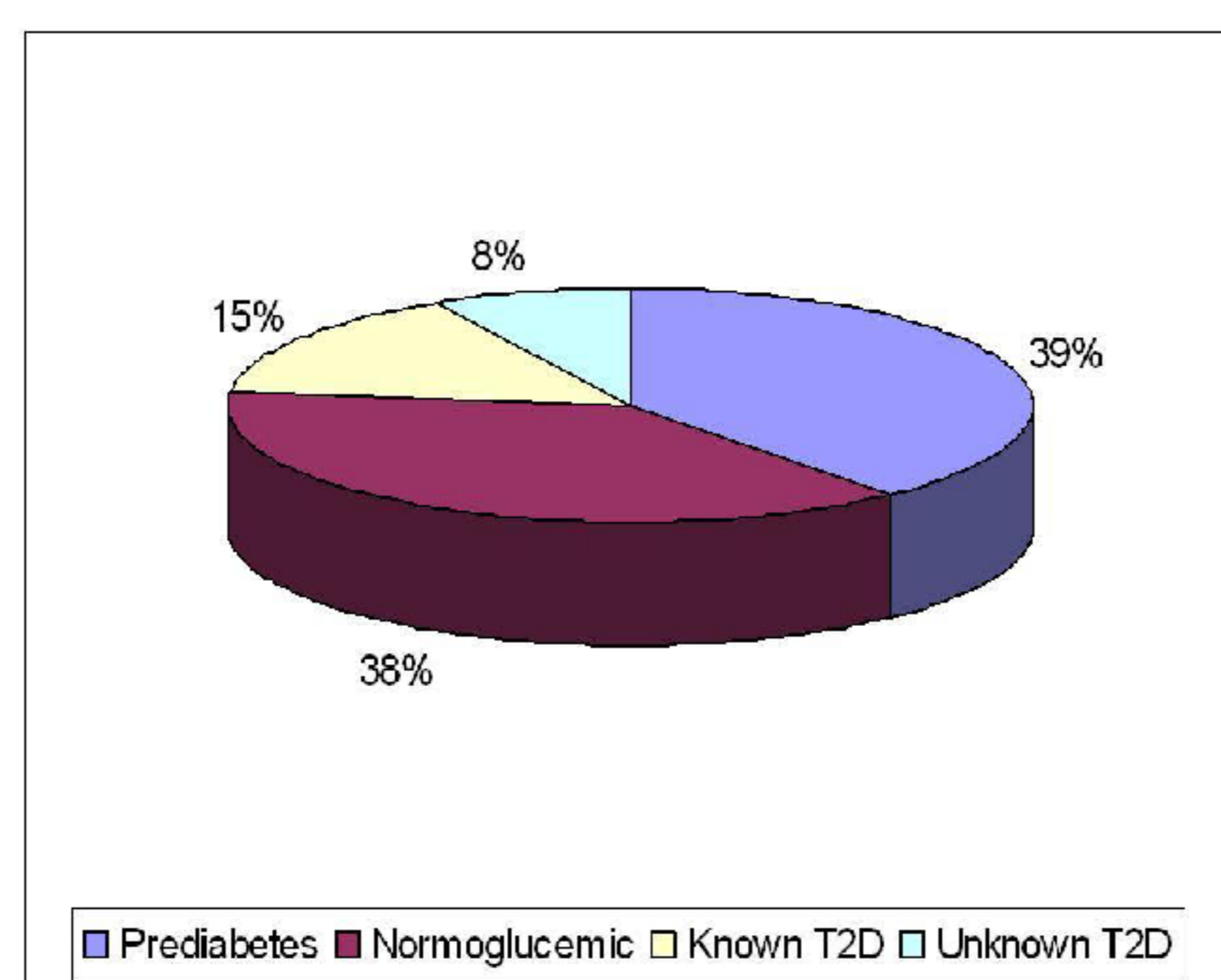
### RESULTS

Of the 72 patients, 73% were male. Mean age was 52 years, and mean BMI 34.4kg/m<sup>2</sup>. At baseline, 52% had hypertension, 40% uncontrolled systolic BP, 50.8% had dyslipidemia, 15% T2DM, 39% impaired fasting glucose (IFG), 7.6% previously unknown DM, 8.9% microalbuminuria, 44% a SCORE > 5%, and 38% were current smokers. There was a significant relationship between neck size (43.50 vs 40.52 cm, p <0.05) and BMI (35.7 vs 33.4 kg/m<sup>2</sup>, p <0.05) with IFG, and a significant association between apnea-hypopnea index (48.8 vs 37.3 apnea per hour, p <0.05) with high cardiovascular risk.

Graphs and tables

Baseline Characteristics	Frecuencies (%) Means (±σ)
Sex Male	73%
Age (years)	52 (±12.4)
Hypertension	52%
Smokers	38%
Dyslipidemia	50.8%
IMC>30	72%
Microalbuminuria	8.9%
Metabolic syndrome	53%
Score>5%	44%

Associated factors to Prediabetics	Mean	P values
Neck perimetre (cm)	43.5vs40.52	P<0.05
IMC	35.7vs33.4	P<0.05



### CONCLUSIONS

Compared with the general population, patients with OSA studied had a high cardiovascular risk and a high frequency of IFG and T2DM, specially in those with grade 2 obesity and a bigger neck size. Screening for diabetes and other cardiovascular risk factors in this population may be of particular interest.

### References

John S. Floras MD, PhD, FRCPC. Sleep apnea and cardiovascular risk. *Journal of Cardiology*. 2014, 63 (1) 3-8.