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Khaled A Alswat

Taif University, Saudi Arabia

Characteristics and habits of diabetics who are at high risk for sleep apnea: Cross sectional study

Objective: Obstructive sleep apnea (OSA) has been associated with insulin resistance and glucose intolerance. Recent reports have indicated that the majority of patients with type 2 diabetes are also have OSA. It been suggested that over 80% of patients with moderate to severe OSA go undiagnosed. Poor glycemic control was reported in diabetics with untreated OSA. The primary goal of this study was to evaluate the prevalence of diabetic individuals with high risk for OSA and their characteristics and habits.

Methods: A cross-sectional study conducted at the King Abdulaziz Specialist Hospital, Taif, Saudi Arabia. Type 2 diabetics age 18 years and older who had a routine follow up to the Diabetes clinic from Jun-Dec 2013 were asked to participate. Baseline characteristics, laboratory data and measurement were collected by the investigators. We excluded patients with existed psychiatric illness and those with history of diagnosed OSA. We used Berlin Questionnaire to screen for OSA risk which was administered by the investigators.

Results: Total of 215 patients participated, 103 (48%) were male and 112 (52%) were female with mean age 56.6 yrs, mean A1c 8.6%, mean duration of diabetes of 10.93 yrs, mean BMI of 31.8, 88.4% were married, 42.3% were on oral medications only, 52.1% were on insulin +/- oral and 5.6% were on diet control. 48.8% are at high risk for OSA. Compare to the low risk, diabetics with high risk for OSA has mean age of 57.3 yrs vs 55.8 yrs ($p=0.38$), 40.6% were male vs 47.9% ($P=0.034$), 85.8% vs 88.4% were married, and 67% vs 65.1% reported low income. High risk diabetics for OSA has mean A1C of 8.6 vs 8.7 ($p=0.51$), BMI of 33.8 vs 29.8 ($p=0.000$), mean systolic BP of 144 vs 137 mmHg ($p=0.02$), mean diastolic of 82.5 vs 80 mmHg ($p=0.12$), and mean resting HR of 84 vs 80.6 bpm ($p=0.005$) compare to low risk. Regarding the diabetes related complications, high risk diabetics for OSA have high prevalence of neuropathy 69.8% vs 56.4% ($p=0.05$), HHS 13.2% vs 5.5% ($p=0.026$), retinopathy 29.2% vs 20.9% ($p=0.17$) and nephropathy 3.8% vs 0.9% ($p=0.16$) compare to low risk individuals. 81.1% who are at high risk for OSA reports sedentary lifestyle compare to 67.3% ($p=0.045$). 84.0% of the high risk group were active smokers compare to 71.8% in the low risk group ($p=0.012$).

Conclusion: High risk diabetics for OSA tend to be older and have significantly higher mean of BMI, systolic BP and resting heart rate. Also, they tend to have significantly higher risk for neuropathy and HHS despite non-significantly lower A1C. They have more risky habits compare to the low risk group.

Biography

Khaled A Alswat is an Assistant Professor of Medicine and the Vice Dean of Graduate Studies and Scientific Research at Taif University and a Consultant physician of Endocrinology and Diabetes at Prince Mansour Diabetes and Endocrinology Center, Taif, Saudi Arabia. With outstanding educational and research activities, he received his post-graduate training in Internal Medicine and Endocrinology from the George Washington University, Washington DC, USA. He is Certified Clinical Densitometrist by the International Society for Clinical Densitometry (ISCD). Active member of numerous Endocrine organizations. Actively participated in many Endocrine meetings including the Endocrine Society 2011&2012 meetings where some of his research was selected to be in the presidential session and amongst the top studies that received special mention in US media coverage

dr_kswat@hotmail.com