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Stepped Approach for Prediction of Syndrome Z in Patients Attending Sleep Clinic: A North Indian Hospital-Based Study

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Abstract

Purpose: Syndrome Z is the occurrence of metabolic syndrome (MS) with obstructive sleep apnea. Knowledge of its risk factors is useful to screen patients requiring further evaluation for syndrome Z.

Methods: Consecutive patients referred from sleep clinic undergoing polysomnography in the Sleep Laboratory of AIIMS Hospital, New Delhi were screened between June 2008 and May 2010, and 227 patients were recruited. Anthropometry, body composition analysis, blood pressure, fasting blood sugar, and lipid profile were measured. MS was defined using the National Cholesterol Education Program (adult treatment panel III) criteria, with Asian cutoff values for abdominal obesity.

Results: Prevalence of MS and syndrome Z was 74% and 65%, respectively. Age, percent body fat, excessive daytime sleepiness (EDS), and ΔSaO(2) (defined as difference between baseline and minimum SaO(2) during polysomnography) were independently associated with syndrome Z. Using a cutoff of 15% for level of desaturation, the stepped predictive score using these risk factors had sensitivity, specificity, positive predictive value, and negative predictive value of 75%, 73%, 84%, and 61%, respectively for the diagnosis of syndrome Z. It correctly characterized presence of syndrome Z 75% of the time and obviated need for detailed evaluation in 42% of the screened subjects.

Conclusions: A large proportion of patients presenting to sleep clinics have MS and syndrome Z. Age, percent body fat, EDS, and ΔSaO(2) are independent risk factors for syndrome Z. A stepped predictive score using these parameters is cost-effective and useful in diagnosing syndrome Z in resource-limited settings.