Obstructive sleep apnea syndrome and obesity: screening ability

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Dear Editor,

I read with interest a paper by Unal et al., who investigated the predictive ability of obesity indices for obstructive sleep apnea syndrome (OSAS) [1]. Waist-to-height ratio, waist circumference, and body mass index (BMI) were selected for the analysis. The authors presented cutoff values of each obesity index for OSAS and also for severe OSAS, stratified by sex. I have some concerns about their study.

First, the authors adopted a receiver-operating characteristic (ROC) curve analysis to specify screening ability. Although the cutoff values for detecting patients with OSAS and with severe OSAS were presented, there was no information of statistical superiority among the three obesity indices for screening OSAS. I recommend the authors conduct statistical comparisons among the three obesity indices to specify superiority for detecting OSAS [2, 3]. One may check R software for supporting mutual statistical comparison of the area under the curve (AUC) of each ROC curve. Statistical software such as STATA® and Medcalc® can be used to compare AUCs.

Second, there was a sex difference in obesity indices for prediction ability of OSAS, and screening ability of obesity indices for OSAS was suspected to be higher in females. In general, the prevalence of OSAS is higher in men than women, and there is a difference of fat distribution by sex [4]. Regarding sex differences, alcohol intake and other lifestyle factors should be included as independent variables for adjustment in the analysis. As ROC curve analysis is a univariate

procedure, propensity-matching ROC curve analysis can adjust several confounding variables.

Finally, there are ethnic differences in obesity indices [5] and caution should be paid regarding the cutoff values to be used in specific populations.

Compliance with ethical standards

Conflict of interest The author declares that there are no conflicts of interest.

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