

B. Clinical Sleep Science - I. Sleep Disorders - Breathing

risk (Low-risk, $n = 85$; High-risk, $n = 28$) and a questionnaire to assess RPA in the past year (LYRPA) and adulthood (LFRPA).

Results: The Low- vs. High-OSA risk groups did not differ in age (Mean \pm SD = 71.9 ± 8.9 vs. 70.7 ± 7.9 yr), gender (84.7% vs. 89.3% male), or BMI (29.1 ± 5.3 vs. 30.0 ± 4.3 kg/m²); However, waist/hip ratio was higher in the High-OSA risk group (0.95 ± 0.08 vs. 0.99 ± 0.08 ; $P < 0.03$). Correlation analysis demonstrated no association between AAA and key measures of interest, i.e. BMI, LYRPA. Neither LYRPA (1237 ± 987 vs. 1079 ± 1084 kcal/wk) nor LFRPA (998 ± 949 vs. 846 ± 860 kcal/wk) differed between groups. RPA in elderly adults at high risk for OSA may be similar to levels among peers at low-OSA risk. Advancing age is often associated with onset of multiple chronic diseases that may reduce PA behavior; however, paradoxically, this sample of elderly adults reported higher levels of last-year PA ($P < 0.01$) than they did for adult years, overall (1205 ± 1010 vs. 965 ± 929 kcal/wk).

Conclusion: Elderly adults at increased risk for OSA may be as active as peers at low risk for this disorder.

Support (If Any): NIH Fund #5P5OHL083800-02

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OBSTRUCTIVE SLEEP APNEA IS UNDIAGNOSED IN PATIENTS REFERRED FOR BARIATRIC SURGERY

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Introduction: There is a high prevalence of obstructive sleep apnea (OSA) in the general population. In severe obesity (BMI > 40 kg/m²) the prevalence of OSA is reported as between 40% to 90% with a greater severity of OSA compared to leaner populations. However, the condition still remains undiagnosed even in this high risk group. We wanted to determine: (a) the prevalence of OSA in patients referred for bariatric surgery, (b) number of patients diagnosed with OSA prior to bariatric surgery evaluation and (c) number of patients diagnosed following mandatory sleep study as part of surgical evaluation.

Methods: Retrospective chart review of patients evaluated in clinic for bariatric surgery from January 1, 2007 to December 31, 2008. All patients had to undergo an overnight polysomnogram as a part of the evaluation process, if one was not done previously.

Results: A total of 146 patients were evaluated in clinic for bariatric surgery. 36/146 patients (24%) had been evaluated for OSA prior to the clinic evaluation and 35/36 (97%) had OSA. Polysomnogram (PSG) was done in 80 of the 110 patients not previously evaluated for OSA. 50/80 (62.5%) had OSA. 12/50 (24%) had severe OSA (AHI > 30 events per hour), 16/50 (32%) had moderate OSA (AHI 15-30 events per hour) and 22/50 (44%) had mild OSA (AHI 5-14 events per hour). Excluding patients where PSG data was not available ($n = 30$), the prevalence of OSA in this group was 73% (85/116).

Conclusion: OSA remains undiagnosed in a majority of patients presenting for evaluation for bariatric surgery. Mandatory testing as a part of the bariatric surgery evaluation in our hospital helps diagnose OSA in these patients. Greater awareness among internists is needed to improve diagnosis of OSA in the general population and obese patients in particular.

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SLEEPINESS OR FATIGUE IN SLEEP APNEA: WHICH IS THE WORSE SYMPTOM?

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Introduction: We sought to investigate the importance of fatigue as a symptom of sleep apnea distinct from sleepiness. We further examined the impact of fatigue and sleepiness, either separate or in combination, on health and psychological functioning.

Methods: We surveyed older individuals with daytime sleepiness, fatigue, or sleep problems who were systematically recruited from the community. They answered questionnaires including measures of sleepiness, fatigue, sleep quality, health and psychological functioning. All completed polysomnography and 124 were had a diagnosis of sleep apnea. Nineteen healthy controls were similarly studied.

Results: The apnea sample was divided according to clinically relevant cut-offs on the sleepiness and fatigue measures. The final groups included: low sleepiness/low fatigue (LL, $n = 23$), high sleepiness/high fatigue (HH, $n = 28$), high sleepiness/low fatigue (HS, $n = 10$), and low sleepiness/high fatigue (HF, $n = 13$). The respiratory disturbance index did not differ significantly among the four apnea groups and only the HF group was significantly lower than the other groups on average oxygen saturation. Multivariate comparisons revealed that the HH group was significantly worse than the LL group on most sleep, health and psychological measures. On these same measures, the groups for whom fatigue was low (LL and HS) were similar to controls.

Conclusion: Patients with sleep apnea can be classified into different sleepiness/fatigue groups. High fatigue is associated with more severe dysfunction than high sleepiness. The current debate on whether to treat apnea patients with low sleepiness needs to recognize the impact of fatigue.

Support (If Any): Canadian Institutes of Health Research

0379

USE OF AN ABBREVIATED, EVENING POLYSOMNOGRAM TO RULE OUT SLEEP-RELATED BREATHING DISORDER IN CHILDREN 2 YEARS OF AGE AND UNDER

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Introduction: Overnight polysomnography (PSG), the "gold standard" for diagnosing sleep-related breathing disorder (SRBD) in children, is expensive and time-consuming test. Previous studies in adults, comparing a full-night PSG (fPSG) to an abbreviated-night PSG (aPSG), demonstrated that an aPSG is reliable detector of SRBD in presence of REM. We could not identify similar studies completed in the pediatric population. Therefore, we decided to examine the validity of aPSG compared to fPSG to identify SRBD in children ≤ 2 years of age.

Methods: In 51 patients referred to the pediatric sleep laboratory for suspected SRBD, we retrospectively split the data of PSG studies into aPSG (4h) and fPSG (≥ 6 h). In addition to descriptive analyses and pairwise correlations, sensitivity, specificity, and positive and negative predictive values (PPV & NPV) were calculated for an apnea/hypopnea index (AHI) threshold of > 1.5 event/h.

Results: Mean age of the group was 10.5 months, and 58.8% of patients were males. Results of sleep parameters for aPSG vs. fPSG respectively were comparable: sleep efficiency (aPSG 84% vs. 82% in fPSG); mean percentage REM out of total sleep time of 28% vs. 30%; mean AHI of 18.1 events/h vs. 17.8 events/h; mean nadir SpO₂% of 81% vs. 80%; and mean peak PETCO₂ of 49.3 mmHg vs. 50.1 mmHg. Pairwise correlation was significant for parameters: AHI ($r = 0.93$, $P < 0.001$), percentage REM out of total sleep time ($r = 0.91$, $P < 0.001$); and nadir SpO₂% ($r = 0.94$, $P < 0.001$). At AHI > 1.5 events/h, sensitivity was 94%, specificity was 100%, PPV was 100%, and NPV was 25%.

Conclusion: In children ≤ 2 years of age, with suspected SRBD, aPSG of 4-hour duration is adequate to confirm SRBD for AHI > 1.5 events/h. We speculate that finding may be adequate in all pediatric age groups.