00231 Hypoxic Burden and Poor Sleep Efficiency Predict Moderate-severe Obstructive Sleep Apnea (OSA) Among Patients Referred for Sleep Studies

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Aims: Obstructive sleep apnea (OSA) is a sleep breathing disorder due to upper airway collapse which is characterized by an apnea-hypopnea index (AHI) $\geqslant$ 5 in polysomnography (PSG). An AHI $\geqslant$ 15 defines at least moderate-severe OSA. We studied the polysomnographic characteristics of patients with suspected OSA and determine which amongst these predict moderate-severe OSA.

Methodology: This is a retrospective study of 591 patients who were referred for an overnight sleep study from August 2015 to August 2016 for suspected sleep apnea. Patients' polysomnography records were reviewed.

Result: Mean age was 45 (SD ± 14) year old with male preponderance (70.4%). OSA was confirmed in nearly all of these patients (99.5%) with 80.5% having at least moderate to severe OSA and median AHI was 43.4 (range 5.0-168.9) h-1. Mean sleep efficiency (SE) was 84% (SD ± 14). Median oxygen desaturation indices (ODI) was 21.5 h-1 (range 0- 145.1), mean oximetry oxygen saturation (mSpO2) was 95.4% (range 63.4 - 98.6) and nadir SpO2 (nSpO2) was 83.0% (range 43-97). Mean respiratory arousal indices (RAI) was 30.1 h-1 (SD ± 19.8). Mean average end-tidal/transcutaneous carbon dioxide levels (CO2) was 38.6 h-1 (SD ± 19.2) and maximum CO2 level was 54.8 h-1 (SD ± 16.3). Snoring volume was light in 12.9%, moderate in 20.3% and loud in 57.1%. In a multivariate model, only ODI, SE and mSpO2 were predictive of moderatesevere OSA with odds of 1.55 (95% CI, 1.35-178), 0.95 (95% CI 0.93-0.98), 1.45 (1.07-1.97) respectively.

Conclusion: Moderate to severe OSA was prevalent among patients referred for sleep studies. Snoring, hypoxic burden and reduced sleep efficiency from sleep disruption were prevalent in this group of patients. The latter 2 were predictive of moderate-severe AHI on polysomnography.