

# European Respiratory Society Annual Congress 2012

**Abstract Number:** 4071

**Publication Number:** P914

**Abstract Group:** 4.2. Sleep and Control of Breathing

**Keyword 1:** Sleep disorders **Keyword 2:** Sleep studies **Keyword 3:** Hypoxia

**Title:** The role of desaturation index evaluated by nocturnal pulse oximetry in recognition of sleep apnea syndrome in patients with morbid obesity

Dr. Stefan 24045 Dumitrache-Rujinski srujinski@yahoo.com MD <sup>1</sup>, Dr. George 24046 Calcaianu calcaianugeorge@gmail.com MD <sup>1</sup>, Dr. Dragos 24047 Zaharia zahariadragoscosmin@gmail.com MD <sup>1</sup>, Dr. Alina 24048 Croitoru haulicaalina@yahoo.com MD <sup>1</sup> and Prof. Dr Miron 24049 Bogdan miron.a.bogdan@gmail.com MD <sup>1</sup>. <sup>1</sup> 4th Pulmonology Department, National Institute of Pneumology, Bucharest, Romania .

**Body:** Background: The nocturnal pulse oximetry is used as a validated screening method in the diagnostic approach of Sleep Apnea Syndrome (SAS). Aim: To assess the role of nocturnal pulse oximetry as a screening method in subjects with morbid obesity (BMI>40 kg/m<sup>2</sup>), knowing that the basal nocturnal saturation is lower in this patients due to hypoventilation in supine position during sleep. Method: 87 obese (BMI>40 kg/m<sup>2</sup>) patients with high pre-test clinical suspicion of SAS (Epworth sleepiness scale >10, snoring, witnessed apneas) were prospectively evaluated by respiratory polygraphy (pulse oximetry, nasal airflow, thoraco-abdominal movements, body position and snoring). We assessed the correlation between the values of Desaturation Index (DI) and Apnea Hypopnea Index (AHI). The cut-off for independent desaturation was 3%. Results: 82 patients (94.2%) were diagnosed with SAS (AHI>5/hour); mean age: 53.1 ± 11.5 years (range 28-79 years); mean BMI: 45.07±5.1 kg/m<sup>2</sup> (range 40-68 kg/m<sup>2</sup>). The mean DI was 45±26.4 / hour and the mean AHI: 44.2±26.1 / hour. Mean lowest SaO<sub>2</sub> was 67.8±13% and mean average SaO<sub>2</sub> was 87.9±7.1%. There was a significant correlation between DI and AHI (p<0.001). Also, DI was correlated with lowest SaO<sub>2</sub> (p<0.001) and average SaO<sub>2</sub> (p=0.02). Conclusion: Desaturation Index assessed by nocturnal oximetry maintains its utility in the recognition of SAS in morbid obese patients with high clinical pre-test suspicion.