

European Respiratory Society Annual Congress 2013

Abstract Number: 4100

Publication Number: P3581

Abstract Group: 4.2. Sleep and Control of Breathing

Keyword 1: Sleep disorders **Keyword 2:** Sleep studies **Keyword 3:** Apnoea / Hypopnea

Title: Randomized short-term trial of high span versus low span APAP for the treatment of obstructive sleep apnea

Dr. Helder 25851 Novais e Bastos hnovaisbastos@gmail.com MD ^{1,2,3}, Dr. Ana Sofia 25852 Castro anasfcastro@gmail.com ⁴, Dr. Tiago 25853 Pinto tiagoffpinto@gmail.com ¹, Dr. Anabela 25854 Marinho a.n.marinho2010@gmail.com ¹, Dr. Maria 25855 Sucena maria.sucena@hotmail.com ¹, Prof. Dr Marta 25872 Drummond marta.drummond@gmail.com ^{1,5}, Dr. João 25883 Almeida joaoalmeida@hsjoao.min-saude.pt ¹ and Prof. Dr João 25888 Winck jwinck@hsjoao.min-saude.pt ^{1,5}. ¹ Serviço De Pneumologia, Hospital São João, Porto, Portugal ; ² Instituto De Investigação Para As Ciências Da Vida e Saúde (ICVS), Escola De Ciências Da Saúde, Universidade Do Minho, Braga, Portugal ; ³ ICVS/3B's - PT Government Associate Laboratory, Universidade Do Minho, Braga/Guimarães, Portugal ; ⁴ Serviço De Pneumologia, Centro Hospitalar De Vila Nova De Gaia/Espinho, Vila Nova de Gaia, Portugal and ⁵ Faculdade De Medicina, Universidade Do Porto, Porto, Portugal .

Body: Background: Auto-titrating continuous positive airway pressure (APAP) devices have been developed to improve efficacy and compliance to treatment of patients with obstructive sleep apnea syndrome (OSAS). Since there are insufficient data on the optimal pressure range setting, we aimed in this study to compare the efficacy of treatment with high span versus low span APAP. Methods: Fifty-three newly diagnosed OSAS patients fulfilling the treatment criteria were randomized to receive high span (HS, range 4-15 cmH₂O, n=25) or low span (LS, range 8-12 cmH₂O, n=28) APAP. Patients were assessed at 1 and 3 months. Results: Mean (±SD) Epworth Sleepiness Scale (ESS) was 10.5±6.2 and median apnea-hypopnea index (AHI) was 31.9 (IQR, 23.1-46.4). There were no significant differences in gender distribution, age, body-mass index, cervical perimeter, ESS and AHI between groups. Overall, no significant differences were found at the 1st month assessment. After 3 months of APAP therapy, we again found no differences in air leakage or residual AHI. However, HS group proved less adherent than LS group, respectively with median 69.5% (IQR, 44-96) vs 96% (IQR, 83.5-98) of the nights using at least 4h (p=0.008) and mean usage 5.4±1.8 h/night vs 6.5±1.2 h/night (p=0.022). In LS group, 83.3% patients had 95th percentile pressure >11 cmH₂O, although only 7.7% required to change maximum pressure setting beyond 12 cmH₂O. Conclusions: Both pressure ranges appear to be equally effective to correct AHI and improve symptoms. However patients with high span APAP were less compliant to treatment, raising issues about the tolerability of wide pressure range settings of these devices.