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Title: NIV (non invasive ventilation) improves Bode index in stable COPD with CHRF (chronic hypercapnic respiratory failure)

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Body: Introduction: The BODE index, a simple multidimensional grading system, is used to predict the risk of death from any cause and from respiratory causes among patients with COPD. The use of NIV in exacerbation of COPD is suggested. On the other hand there are not any guidelines for the use of NIV in patients with stable COPD. Purpose: To investigate any improvement in patients with COPD and CHRF using NIV at home, in relation with BOE index and the factors that predict the improvement. Material and methods: Patients with COPD and CHRF (in stable condition) with LTOT were included. Patients underwent a polysomnography study to exclude OSA (AHI<10). The patients used NIV at home for a year. BODE index and its components (FEV1, MRC, BMI, 6MWT), were estimated at baseline (0 month) and 6 and 12 months after use. In addition, BODE index change on the 6th month was correlated with initial parameters {AHI, OD, min saturation, mean saturation at sleep, PO2, PCO2, BODE index (0month), FVC, FEV1/FVC, age}. Results: There is a statistically significant change of BODE index after 6 months and after 12 months of using NIV. There is a correlation between BODE index change and oxygen desaturation (OD) [polysomnography study]. Conclusion: NIV improves bode index in patients with stable COPD and CHRF. The change in BODE index is correlated with Oxygen Desaturation during sleep.