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Sleep-disordered breathing occurs frequently in stable outpatients with congestive heart failure.

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BACKGROUND: Sleep-disordered breathing (SDB) has a potential role in the pathogenesis of congestive heart failure (CHF). High rates of central sleep apnea (CSA) are found in patients with severe CHF, and equal proportions of obstructive sleep apnea (OSA) and CSA in are found CHF patients referred to sleep clinics. The prevalence, type, and severity of SDB in unselected stable outpatients with CHF are unknown. STUDY OBJECTIVES: To determine the frequency and type of SDB in stable CHF outpatients and to examine the relationship between indexes of SDB and impaired cardiac function. PARTICIPANTS: Fifty-three of 87 eligible outpatients (left ventricular ejection fraction [LVEF] < 45%) were predominantly male (77%), with an average age of 60.1 +/- 9.8 years, mean body mass index of 27.9 +/- 5.3 kg/m2, and mean LVEF of 34.0 +/- 8.5% (+/- SD). MEASUREMENTS: Polysomnography, clinical questionnaire, echocardiography, urinary catecholamines, and amino-terminal fragment of pro-brain natriuretic peptide (NT-BNP). RESULTS: SDB (apnea-hypopnea index >10 events/h) was demonstrated in 36 patients (68%) including two subgroups: OSA (n = 28, 53%) and CSA (n = 8, 15%). SDB was associated with atrial fibrillation (0% vs 28%, p = 0.02), more severe oxyhemoglobin desaturation (percentage of time with oxygen saturation < 90%: 0.4% vs 7.9%, p = 0.003), sleep disruption (p = 0.003), and higher urinary noradrenaline levels (p = 0.013) in OSA patients and CSA patients, respectively. Subjective sleepiness (Epworth sleepiness scale, 7.5 vs 8.5; p = 0.11), indexes of impaired cardiac function including Minnesota Living With Heart Failure Questionnaire scores, shuttle walk distance, and NT-BNP levels were not related to the presence of SDB (p > 0.05). CSA patients had lower LVEF (p = 0.0013). CONCLUSIONS: SDB is very common in stable outpatients with CHF, and in our sample OSA predominates. Atrial fibrillation and severe left ventricular impairment increased the likelihood of SDB (particularly CSA), whereas symptom severity, subjective daytime sleepiness, exercise capacity, and NT-BNP levels did not. If specific therapy for SDB such as continuous positive airway pressure can be shown to improve major cardiovascular end points, these results support screening of clinically stable CHF patients.

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