

Sleep and Quality of Life in Heart Failure and Stroke

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Summary Congestive heart failure (CHF) because of left ventricular systolic dysfunction is a prevalent syndrome and associated with morbidity, mortality, and huge economic cost. Hallmarks of CHF are exercise intolerance, poor prognosis, and poor quality of life (QoL). According to reports from several laboratories, a large number of patients with heart failure also have sleep apnea (SA). SAs cause arousals and sleep disruption, alter blood gases, and increase sympathetic activity. SA has a major impact on QoL, and disturbed sleep itself significantly contributes to depressive syndromes in patients with stable CHF. The correlation of the apnea/hypopnea index (AHI) with most of the QoL measures and depressive syndromes indicates that patients with AHI indices estimated their impaired physical and emotional health status lower as opposed to patients without sleep-related breathing disorder. Fatigue leads to reduced QoL after stroke. Sleep-disordered breathing precedes stroke and may contribute to the development of stroke. It is an independent prognostic factor related to mortality in stroke and associated with fatigue and impaired QoL. Obstructive events seem to be a condition before the neurological disease whereas central events and Cheyne–Stokes respiration (CSR) could be its consequence. In this article, the impact of sleep-disordered breathing on patients with heart failure and stroke and its influence on QoL are discussed.

Keywords Sleep apnea · congestive heart failure · stroke · quality of life · depression

Learning objectives:

- Sleep apnea in congestive heart failure is associated with reduced quality of life, elevated mortality rates, and associated with depression. Treatment of sleep apnea in CHF improves quality of life, EF, and possible effect on mortality.
- Sleep-disordered breathing precedes stroke and may contribute to the development of stroke, which is an independent prognostic factor related to mortality. Obstructive events seem to be a condition before the onset of the neurological disease whereas central events and Cheyne–Stokes respiration could be its consequence.

reduce quality of life (QoL), exercise tolerance, and survival. Depending on the severity of symptoms, heart dysfunction, age, and other factors, CHF is associated with an annual mortality of 20–30% at 1 year and 50% at 5 years, and it is one of the most common causes of hospitalization. Prognostic factors in CHF include haemodynamic, neurohumoral, electrophysiological, and treatment variables. There is increasing evidence that sleep-disordered breathing (SRBD) is also a prognostic factor (2).

Two types of sleep apnea (SA) in heart failure are common. The obstructive SA episode is defined as a loss of inspiratory airflow coupled with rib-cage excursions and/or abdominal excursions. Obstructive SA syndrome (obstructive SA, OSAS) might also be a cause of heart failure. In a study by Dursunoglu et al. (3), the left ventricular mass and myocardial performance indexes in obstructive SA patients were assessed. Severe and moderate OSAS patients had higher left ventricular mass and left ventricular mass index, and left ventricular global dysfunction.

The simultaneous absence of inspiratory airflow and respiratory movement indicates the presence of central SA episodes. Cheyne–Stokes respiration (CSR) is a form of periodic breathing in which apneas and hypopneas with

Introduction

Congestive heart failure (CHF) is common, especially in older patients, and its incidence is predicted to even further increase (1). It is among the congestive diseases that most