OPEN ACCESS Freely available online

Journal of Sleep Disorders & Therapy

Perspective

Association between OSA and Hypertension in Asian and Western Population

Alona Shari*

Department of Psychology, Melbourne Sleep Disorders Centre, Melbourne, Australia

DESCRIPTION

Obstructive Sleep Apnea (OSA) is a risk of hypertension and is associated with the development of Cardiovascular Disease (CVD). In Asian countries, the prevalence of OSA is as high as in Western Europe. When assessing OSA individual Blood Pressure (BP) using Ambulatory Blood Pressure Monitoring (ABPM), the BP phenotype often exhibits abnormal BP fluctuations, such as a morning rise in blood pressure, and these conditions all are associated with an increase in associated cardiovascular events. Asians have a higher prevalence of elevated nocturnal or morning blood pressure than Westerners. Such abnormal blood pressure fluctuations have been shown to be associated with the progression of arteriosclerosis, which can cause a vicious cycle between the abnormal blood pressure phenotype and arteriosclerosis. This phenomenon is known as Systemic Hemodynamic Atherothrombotic Syndrome (SHATS). OSA may be one of the background factors that enhance SHATS. An oxygen-triggered nocturnal oscillometric blood pressure monitor combined with a pulse oximeter for continuous SpO_2 monitoring can detect blood pressure fluctuations caused by OSA. In addition to treating OSA, accurate and reliable detection and treatment of residual BP elevations and BP fluctuations caused by OSA is required to prevent CVD events. However, more detailed detection of BP variability, such as beat-by-beat BP monitoring, would further help to reduce CVD events.

Sleep disorders such as Obstructive Sleep Apnea (OSA), sleep time, and nocturia are strongly associated with the risk of Cardiovascular Disease (CVD). Repeated episodes of respiratory arrest due to upper airway collapse during sleep in OSA patients pose a risk of hypertension and are also associated with organ damage and cardiovascular events. The termination of an episode of apnea or hypopnea in OSA causes an acute and transient rise in BP. Conventionally; Ambulatory Blood Pressure Monitoring (ABPM) is the gold standard for measuring night time BP. Continuous Positive Airway Pressure (CPAP) is the primary therapy for patients with severe OSA. However, hypertensive patients with severe OSA are sometimes asymptomatic. Patients with asymptomatic OSA often have poor compliance with continued CPAP therapy.

Obesity is one of the most important risk factors for OSA. Obesity levels are lower in Asians than in Caucasians, but OSA is common to both populations. According to recent data, the country with the highest prevalence of OSA is China, followed by the United States, India and Brazil. The number of subjects with an Apnea-Hypopnea Index (AHI) ≥ 15/hour was 66 million, 54 million, 29 million and 20 million, respectively. However, in other Asian countries, the prevalence of OSA remains high in the population aged 30-69 years. Craniofacial abnormalities are also an important factor in OSA. Comparing Asians and Caucasians, Asians have shorter cranial bases and shorter maxillary and mandibular lengths after matching Body Mass Index (BMI) or OSA severity. Diagnosis and treatment of OSA is important due to the high prevalence of OSA in Asia and the association between OSA and cardiovascular risk.

CONCLUSION

OSA is widespread in both Asian and Western populations and raises great concerns because it is associated with hypertension and cardiovascular events. OSA leads to elevated blood pressure during sleep, which is associated with damage to target organs, and can trigger CVD events. However, OSA-related BP variability can be overlooked by traditional methods such as ABPM and TNP systems. Recently developed wearable devices that enable non-invasive, cuff less, beat-by- beat blood pressure measurements may solve this problem. Accurate and reliable detection and treatment of BP elevations and BP fluctuations caused by OSA is an important goal in the prevention of CVD events.

Correspondence to: Alona Shari, Department of Psychology, Melbourne Sleep Disorders Centre, Melbourne, Australia, E-mail: shr.alon@msdc.com.au

Received: 01-Jul-2022; Manuscript No. JSDT-22-18574; **Editor assigned:** 04-Jul-2022; Pre QC No. JSDT-22-18574 (PQ); **Reviewed:** 18-Jul-2022; QC No. JSDT-22-18574; **Revised:** 25-Jul-2022; Manuscript No. JSDT-22-18574 (R); **Published:** 01-Aug-2022, DOI: 10.35248/2167-0277.22.11.376.

Citation: Shari A (2022) Association between OSA and Hypertension in Asian and Western Population. J Sleep Disord Ther. 11:376.