

6th International Conference on **CARDIOLOGY HEART DISEASE AND HEART FAILURE**

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Link between Insomnia and Hypertension

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Insomnia is a prevalent sleep disorder that is associated with a multitude of health consequences. Particularly, insomnia has been associated with cardiovascular disease and its precursors, such as hypertension and blood pressure (BP) non-dipping

Blood pressure (BP) varies over 24 hours. During normal sleep, BP typically decreases by 10% or more. Research suggests that disordered sleep, particularly sleep deprivation and obstructive sleep apnea, is associated with increased BP and risk of hypertension. Less is known about the relationship between insomnia and hypertension. Population-based studies have reported an association between insomnia symptoms and both prevalent and incident hypertension, particularly in the context of short sleep duration. Furthermore, a number of mechanisms have been proposed to explain the relationship between insomnia and hypertension. However, few studies have examined these proposed mechanisms and even fewer clinical trials have been conducted to determine if improved sleep improves BP and/or reverses a non-dipping BP pattern. The recent evidence suggests that the increasing prevalence of hypertension might be related both to an increased prevalence of insomnia and to the poor sleep quality/ duration. Additionally, anxiety that often accompanies sleep disorders is associated with increased BP, a known risk factor for cardiovascular events. This indicates that the pharmacotherapy for sleep disorders and insomnia may have beneficial effects on BP. Furthermore, several experimental studies have suggested that certain sleeping pills may decrease BP or SNS activity. However, only a few researchers have studied the association between hypertension and insomnia treatment and the impact of this treatment on BP.

Although long-term sleep loss is often secondary to somatic or psychiatric illness, it appears that insomnia may also play a central role in the pathogenesis of somatic illness and metabolic dysregulation. Insomnia has been particularly associated with cardiovascular diseases and its precursors such

as hypertension and non-dipping blood pressure (BP). Blood pressure physiologically decreases during sleep, a process known as dipping. Studies have shown that day-to-night and nighttime regulation of BP appears to be closely linked with autonomic changes happening during the wake, sleep cycle. This suggests that BP is especially sensitive to sleep disturbances. Hypersecretion of adrenocorticotropic hormone, cortisol and catecholamine has been reported in patients with insomnia symptoms, suggesting the over activation of the hypothalamic-pituitary-adrenal axis and sympathetic nervous system (SNS); which provides a biological basis for the co morbidity of insomnia and hypertension. The recent evidence suggests that the increasing prevalence of hypertension might be related both to an increased prevalence of insomnia and to the poor sleep quality/ duration. Additionally, anxiety that often accompanies sleep disorders is associated with increased BP, a known risk factor for cardiovascular events. This indicates that the pharmacotherapy for sleep disorders and insomnia may have beneficial effects on BP. Furthermore, several experimental studies have suggested that certain sleeping pills may decrease BP or SNS activity. However, only a few researchers have studied the association between hypertension and insomnia treatment and the impact of this treatment on BP. The drugs primarily used for insomnia treatment include benzodiazepines, non-benzodiazepines hypnotics, ramelteon and antidepressants such as doxepin. Benzodiazepines formed the mainline therapy for insomnia for many years. However, associated side-effects and addiction potential has restricted the use of benzodiazepines. Among non-benzodiazepines, zolpidem tartrate is the highly prescribed drug for the short term treatment of insomnia globally. Huang et al., demonstrated that zolpidem tartrate, through improvements in sleep quality, stress status and activation of the SNS, could significantly help the conversion of non-dippers to dippers. However, there is no data regarding the use of zolpidem tartrate in Indian patients suffering from co-morbid insomnia and hypertension. The present study was designed with the objective to obtain in-

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sights on the effectiveness and safety of zolpidem tartrate in Indian patients with insomnia and hypertension over a period of 21-days

The focus would be to treat insomnia with short term prescribed sedative-hypnotic drug so that the patient do not get addicted to the pill and he/she gets back to the regular sleep pattern.

Biography

Neha Haris is a post-graduate student pursuing MSc in Cardiology and Stroke at the university of Hertfordshire, United Kingdom. She received a bachelor's degree in cardiopulmonary perfusion in the year 2017 from Dr. MGR University, India. Thereafter, she started practice in the year 2017 as a clinical assistant in cardiology at Dr Karnik's cardiac clinic. She pursued diploma in nutrition and dietetics in the year 2019 and started my own clinic. She got certified Clinical researcher and She has so far published research on "Link between Early Hypertension and Insomnia" in association with Abbott India limited in the year 2020.

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