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ORIGINAL ARTICLE

Prevalence of new-onset insomnia in patients with obstructive sleep apnoea syndrome treated with nocturnal ventilatory support☆

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New-onset insomnia;
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Abstract
Introduction: New-onset insomnia (NOI) associated with nocturnal ventilatory support (NVS) is becoming a reality in clinical practice; however there is a lack of data about its prevalence. Our aim was to determine the prevalence of NOI in patients with obstructive sleep apnoea syndrome (OSAS) under NVS and its associated risk factors.
Material and methods: Descriptive cross-sectional study of 80 patients with OSAS under NVS. We compared two groups, with and without NOI, considering demographic characteristics, disease features, and personality. Patients under anxiolytic and/or antidepressant medication, with a weight loss of 10% or greater, and with restless legs symptoms were excluded.
Results: Median age of patients was 60.0 (interquartile range (IQR) 10.0) years; 82.5% were male. Median initial Epworth Sleepiness Scale (ESS) and apnoea–hypopnoea index (AHI) were 12.5 (IQR 9.0) and 44.1 (IQR 22.4)/h, respectively. The majority of patients (91.3%) were under auto-adjusting positive airway pressure (APAP). Insomnia at baseline was present in 30% of patients (n=24). Prevalence of NOI was 21.4% (12/56). Initial and/or intermediate insomnia were the most frequent subtypes (n=11). We found a statistically significant negative relation between NOI and pressure on 90% nighttime (P_{90}) (p=0.040).
Conclusions: OSAS patients under NVS presented a high prevalence of NOI. Patients with NOI presented lower levels of pressure using NVS, compared to the others.

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PALAVRAS-CHAVE
Insónia de novo;
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Prevalência;
Factores de risco

Prevalência de insónia de novo em doentes com síndrome de apneia obstrutiva do sono tratados com suporte ventilatório nocturno

Resumo
Introdução: A insónia de novo (IN) associada ao uso do suporte ventilatório nocturno (SVN) tem sido uma realidade constatada na prática clínica, contudo é de salientar a escassez de dados referentes à sua prevalência. O nosso objectivo consistiu em determinar a prevalência de IN e seus factores de risco em doentes com síndrome de apneia obstrutiva do sono (SAOS) sob SVN.
Material e métodos: Estudo descritivo transversal que incluiu 80 doentes com SAOS sob SVN. Efectuada comparação entre dois grupos, com e sem IN, relativamente a características demográficas, relacionadas com a doença, e personalidade. Foram excluídos os doentes sob medicação ansiolítica e/ou antidepressiva, com perda ponderal superior ou igual a 10%, e com sintomas da síndrome das pernas inquietas.
Resultados: A mediana de idades dos doentes incluídos foi de 60,0 (intervalo interquartil (IIQ) 10,0) anos; 82,5% eram do sexo masculino. Os valores iniciais medianos da escala de sonolência de Epworth (ESE) e do índice de apneia-hipopneia (IAH) foram de 12,5 (IIQ 9,0) e de 44,1 (IIQ 22,4)/h, respectivamente. A maioria dos doentes (91,3%) estava sob pressão positiva nas vias aéreas em modo automático (*auto-adjusting positive airway pressure* (APAP)). A insónia prévia ao uso de SVN estava presente em 30% (n=24) dos doentes. A prevalência de IN foi de 21,4% (12/56) e os subtipos de insónia inicial e/ou intermédia foram os mais frequentes (n=11). Foi encontrada uma relação negativa estatisticamente significativa entre a IN e a pressão em 90% do tempo de SVN (P_{90}) (p=0.040).
Conclusões: Os doentes com SAOS sob SVN apresentaram uma prevalência elevada de IN. Os doentes com IN apresentaram níveis inferiores de pressão de SVN comparativamente com os outros.

Introduction

Insomnia and obstructive sleep apnoea syndrome (OSAS) are the two most common sleep disorders, and both have significant, associated increases in health costs. Although, an earlier epidemiological study reported a prevalence of OSAS of 2–4% in a middle-aged adult population,[1] a significantly higher prevalence was found in a more recent study as a result of the different sample features, diagnosis criteria, techniques and epidemiological methodologies applied.[2] Similarly, estimates of the prevalence of insomnia depend on the criteria used to define this disorder and more importantly the population studied.[3] Insomnia symptoms occur in approximately 33–50% of the adult population; insomnia symptoms with distress or impairment (i.e., general insomnia disorder) in 10–15%; and specific insomnia disorders in 5–10%.[3–5] Insomnia, a complex and multifactorial entity, has been explained as a psychological process, with a strong physiological component defined as central nervous system activation or increased arousal activity during sleep.[5–8] Some authors suggest that this arousal behaviour may be innate or genetically determined, serving as a substrate upon which various external factors, such as stress, may act to aggravate sleeplessness.[9–11] Despite the high prevalence of this symptom and its significant psychosocial consequences, little is known about potential interactions or associations between the two disorders – OSAS and insomnia. Some studies have shown that 40–50% of patients with sleep-disordered breathing present problematic insomnia symptoms before beginning any type of treatment.[5,12–16] Chung[14] documented a prevalence of 6%, 26% and 19% of initial, intermediate, and final insomnia respectively in patients with OSAS, noting that patients with initial insomnia had significantly lower apnoea–hypopnoea (AHI) and arousal indices. Although insomnia is a common complaint in patients who are evaluated for OSAS, some believe that these two disorders are not strongly associated.[17,18] However, other studies suggest that co-morbidity of insomnia in OSAS patients may lead to increased severity of OSAS, decrease in OSAS treatment compliance, and that patients with both conditions may experience more symptoms relating to depression, anxiety, and stress.[13,19–21] Given the substantial overlap in symptoms between insomnia and OSAS, evaluation and treatment of these two conditions can be challenging and will require multidisciplinary collaboration among sleep specialists.

Despite the inconclusive and sometimes contradictory results concerning the relationship between insomnia and OSAS before treatment, there is little doubt that these two disorders can coexist *ad initium*. However, in clinical practice it has been observed that patients with OSAS and no insomnia at baseline develop this symptom after beginning treatment with nocturnal ventilatory support (NVS). In this context, we usually consider this complaint as new-onset insomnia (NOI) or *de novo* insomnia. This is the justification for our aim to evaluate the prevalence of NOI in patients with OSAS under NVS, and to determine its associated risk factors.