



ORIGINAL ARTICLE

Obstructive sleep apnoea syndrome^{☆,☆☆}

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KEYWORDS

Obstructive sleep
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Child;
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Tonsillectomy

Abstract

Introduction: Obstructive sleep apnoea (OSA) is highly prevalent in children and a major public health problem. An attempt is made to determine the clinical and polysomnographic presentation of paediatric OSA in our area.

Patients and methods: Retrospective descriptive study of sleep tests conducted on children up to 14 years old from 1999 to 2012 in the Sleep Unit of the University Hospital of Albacete. Age, gender, anthropometric, clinical data, indication and variables of sleep study, treatment, and outcomes were collected.

Results: The study included 234 children. OSA was found in 71.8%, with 42.3% moderate and 44.6% severe. The majority were male (60.7%) and the mean age was 5 years, of whom 78% were pre-school or school age. There was overweight/obesity in 44%, with 93.4% snoring, apnoea 84.5%, and 5.4% daytime sleepiness. There were 23 polysomnographies and 145 polygraphies, with a median apnoea/hypopnoea index (AHI) of 10, SatO₂ minimum 84%, desaturation index 8, and mean sleep supine 53.65% and supine events 57.61%. Treatment was lifestyle modifications 29.2%, CPAP 6%, and surgery 42.9%. Improved snoring and/or apnoea 69.4%, and weight 32.4% of overweight/obesity children.

Conclusions: Most of the studied children had a pathological AHI. Almost half were overweight/obese, and a high percentage had moderate-severe OSA. Most frequent treatment was surgery. The clinical outcome was favourable in almost 70%. Less than a third with OSA and overweight/obesity improved weight.

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PALABRAS CLAVE

Síndrome de apnea obstructiva del sueño;
Niño;
Polisomnografía;
Amigdalectomía

Síndrome de apneas-hipopneas durante el sueño**Resumen**

Introducción: El síndrome de apneas-hipopneas del sueño (SAHS) es altamente prevalente en la edad pediátrica y un problema importante de salud pública. Se pretende conocer la presentación clínica y polisomnográfica del SAHS infantil en nuestro medio.

Pacientes y métodos: Estudio descriptivo retrospectivo de los estudios del sueño realizados a menores de 14 años desde 1999 hasta 2012 en la Unidad del Sueño del Complejo Hospitalario Universitario de Albacete. Se recogen edad, sexo, datos antropométricos, clínicos, indicación y variables del estudio del sueño, tratamiento y evolución.

Resultados: Doscientos treinta y cuatro niños. SAHS el 71,8%: moderado 42,3% y grave 44,6%. 60,7% varones y mediana de edad 5 años; el 78% en edad preescolar o escolar. Presentaban sobrepeso/obesidad 44%, ronquidos 93,4%, apneas 84,5% y somnolencia diurna 5,4%; 23 polisomnografías y 145 poligrafías: mediana de índice de apneas-hipopneas (IAH) 10, de SatO₂ mínima 84% y de índice de desaturaciones 8, y media de sueño en supino 53,65% y de eventos en supino 57,61%. El tratamiento fue medidas higiénico-dietéticas en el 29,2%, CPAP el 6% y cirugía el 42,9%. Mejoraron los ronquidos y/o apneas el 69,4% y el peso el 32,4% de los niños con sobrepeso/obesidad.

Conclusiones: La mayoría de los niños estudiados tenían un IAH patológico. Casi la mitad presentaban sobrepeso/obesidad y un alto porcentaje tenía SAHS moderado-grave. El tratamiento más indicado fue la cirugía. La evolución clínica fue favorable en casi el 70%. Menos de un tercio con SAHS y sobrepeso/obesidad mejoraron el peso.

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Introduction

Obstructive sleep apnoea (OSA) is characterised by repetitive episodes of cessation or significant decrease in airflow (apnoea or hypopnoea, respectively) during sleep due to anatomical or functional abnormalities in the upper airway that lead to its collapse and may be accompanied by oxygen desaturation and multiple unconscious arousals (microawakenings), all of which results in nonrestorative sleep. It may be associated with excessive daytime sleepiness (EDS) and neuropsychiatric, respiratory, endocrine/metabolic or cardiovascular diseases.¹ Although one-fourth of the population experiences some episodes of apnoea or hypopnoea, OSA is only diagnosed when these episodes are very frequent and cause health problems.²

Obstructive sleep apnoea affects 4–6% of middle-aged men and 2–4% of middle-aged women,^{3,4} and its frequency increases with age.⁵ It is a public health problem of utmost importance.⁶ However, only 5–9% of the 1 200 000–2 150 000 individuals estimated to have the disease in Spain have received a diagnosis or been treated for it.⁷

Obstructive sleep apnoea can also occur in children, in whom it presents with specific manifestations. Children differ from adults on account of developmental peculiarities in the anatomy and function of the upper airway and of the neurophysiology of sleep. Paediatric OSA is a distinct entity with significant differences in aetiology, clinical presentation and treatment. The clinical manifestations and physical, cognitive and developmental outcomes of OSA in children are different compared to adults.² Thus, the American Academy of Sleep Medicine differentiates

between these two entities and includes them as separate categories in its classification of sleep disorders.⁸

The Consensus Document on Obstructive Sleep Apnoea in Children was published in 2011.⁹ It defines paediatric OSA as a disorder of breathing during sleep characterised by prolonged partial upper airway obstruction and/or intermittent complete obstruction that disrupts normal ventilation during sleep and normal sleep patterns. It presents with symptoms such as snoring, sleep disturbances and/or behavioural or learning problems.¹⁰ Severe cases may cause faltering weight, neurocognitive impairment and *cor pulmonale*. Several risk factors for OSA have been identified,¹¹ the most frequent of which is adenotonsillar hypertrophy, followed by obesity, which has been emerging as an aetiological factor in children in recent years. Other factors include craniofacial anomalies, neurologic diseases such as cerebral palsy, neuromuscular disorders and gastroesophageal reflux.⁹

The prevalence of OSA in children is high. It affects 2–4% of children aged 2–6 years,¹⁰ and its incidence peaks between 2 and 5 years. It is most commonly found in preschool- and school-age children, but it may also manifest in the first months of life. There are no differences in prevalence between the sexes.² Obstructive sleep apnoea is a child health priority due to its high prevalence, because it often appears in association with different chronic diseases, is associated with less favourable outcomes of these comorbidities, and has a negative impact on the quality of life of children and their caregivers.⁹

Our unit has been performing sleep studies in children since 1999. The number of these studies has been increasing

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