Pediatric obstructive sleep apnea

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■ Cite as: *CMAJ* 2024 February 26;196:E241. doi: 10.1503/cmaj.230897

1 Obstructive sleep apnea in children peaks around age 4–6 years

Obstructive sleep apnea (OSA) is characterized by partial or complete airway obstruction during sleep. Prevalence is about 1.2%.[1] Adenotonsillar hypertrophy and obesity are common risk factors in healthy children.[2] The condition is also more common in specific at-risk populations, including children with trisomy 21, neuromuscular disorders, cerebral palsy and craniofacial anomalies.[3]

2 Untreated pediatric OSA have can have important short- and long-term consequences

Obstructive sleep apnea can lead to impaired cognition and poor school performance.[3] Untreated OSA can also result in failure to thrive, hypertension, metabolic disorders, obesity, and neuropsychiatric and developmental problems.[4]

3 Children with OSA can present with symptoms that are different from those in adults

Children frequently present with loud snoring, mouth breathing, apneic episodes and nighttime awakenings.[4] Children are more likely than adults to present with behavioural changes, hyperactivity, irritability or enuresis rather than sleepiness.

4 Polysomnography is the gold standard for diagnosing OSA; however, it is not always required for assessment or treatment initiation

Many children undergo treatment in the absence of polysomnography confirmation when clinical presentation strongly suggests the diagnosis.[5] A polysomnogram helps with unclear diagnoses and assesses disease severity. Children with OSA symptoms, risk factors like craniofacial anomalies, or abnormal polysomnogram, if obtained, should be referred to a specialist for further evaluation.

5 In the presence of adenotonsillar hypertrophy, adenotonsillectomy is an effective treatment option

In milder OSA, intranasal steroids or leukotriene inhibitors may be sufficient treatment and can be considered while awaiting specialist consultation.[1] Weight reduction may be beneficial in some children. Adenotonsillectomy is the first-line treatment for moderate to severe OSA in healthy children with adenotonsillar hypertrophy.[5] Resolution and improvement in quality of life are likely. Risks include bleeding and pain. More extensive surgery or continuous positive airway pressure therapy may be required in children with underlying (e.g., neuromuscular) disorders or persistent symptoms.[4]

References

1. Lumeng JC, Chervin RD. Epidemiology of pediatric obstructive sleep apnea. *Proc Am Thorac Soc* 2008;5:242-52.
2. Bixler EO, Vgontzas AN, Lin HM, et al. Sleep disordered breathing in children in a general population sample: prevalence and risk factors. *Sleep* 2009;32:731-6.
3. *International classification of sleep disorders – third edition (ICSD-3) (online)*. Darien (IL): American Academy of Sleep Medicine; 2014. Available: https://learn.aasm.org/Listing/a1341000002XmRvAAK (accessed 2023 June 20).
4. Gipson K, Lu M, Kinane TB. Sleep-disordered breathing in children. *Pediatr Rev* 2019;40:3-13.
5. Marcus CL, Moore RH, Rosen CL, et al. A randomized trial of adenotonsillectomy for childhood sleep apnea. *N Engl J Med* 2013;368:2366-76.

Competing interests: Elise Graham reports receiving a Western University Department of Otolaryngology Catalyst Grant and Academic Medical Organization of Southwestern Ontario Opportunities Fund Grant (outside the submitted work). Dr. Graham has also served as the chair of the Women in Otolaryngology Section for the Canadian Society of Otolaryngology. No other competing interests were declared.

This article has been peer reviewed.

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