Montelukast for Sleep Apnea: A Review

Context
Obstructive sleep apnea (OSA) is a common disorder in which the throat muscles repeatedly relax and either partially or completely block the upper airway during sleep, resulting in sleep disruption. OSA affects 9% of middle-aged men and 3% of women in North America. In children, the prevalence ranges between 1% and 5%. If left untreated, OSA can lead to fatigue, drowsiness, headaches, cardiovascular disease, decreased quality of life, and increased risk of motor vehicle accidents.

Technology
Montelukast (Singulair) is a leukotriene receptor antagonist, typically used to treat asthma and allergic rhinitis. It has been considered as a therapy option for children with mild OSA because of its anti-inflammatory properties. Elevated levels of leukotriene receptors were found in the tonsils of children with OSA. Leukotrienes are inflammatory mediators in the respiratory system and are involved in the propagation of inflammation in children with OSA.

Issue
A review of the effectiveness, cost-effectiveness, and guidelines regarding the use of montelukast for the treatment of patients with OSA will help inform decisions about its use to treat this disorder.

Methods
A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

Key Messages
- Montelukast may improve respiratory disturbances in children with mild to moderate OSA.
- No evidence on the use of montelukast to treat OSA in adults was found.
- No information on the cost-effectiveness of montelukast for the treatment of OSA was found.
- No evidence-based guidelines on the use of montelukast to treat OSA were found.

Results
The literature search identified 31 citations, with no additional articles identified from other sources. After screening the abstracts, 5 were deemed potentially relevant and 2 met the criteria for inclusion in this review — 1 systematic review and 1 randomized controlled trial.

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