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Editorial – Obstructive sleep apnea syndrome and recurrent upper airway disease in children

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Obstructive Sleep Apnea Syndrome (OSAS) and snoring are important health issues in the pediatric population, with a respective prevalence of 0.1% to 13% and 6% to 12%[1,2] and a strict correlation with recurrent upper airway disease[1-3]. Awareness of OSAS and snoring as health issues in children and adolescents is inadequate; there is a significant gap between the estimated number of children with OSAS and clinically diagnosed cases[3]. Missed or delayed treatment may put young patients at risk of growth lag, hyperactivity, attention deficit, learning disabilities, and low levels of education and literacy; there is a significant increase in the use of health services by children with OSAS[4]. Studies have demonstrated that the severity of OSAS correlates directly with total annual costs and is age-independent; other studies have shown that annual healthcare costs are reduced by one-third for children with OSAS undergoing adenotonsillectomy[5,6].

The clinical picture of OSAS in children includes noisy breathing, habitual snoring with or without breathing pauses during sleep, enuresis, sleeping in the sitting position, cyanosis, headache on awakening, excessive daytime sleepiness, and higher prevalence of hyperactivity attention deficit and learning disorders[2,4,7]. Multidisciplinary approach plays a paramount role in OSAS; although a clinical suspicion can easily be formulated using a structured interview, diagnosis should be confirmed by a multidisciplinary team including pediatricians, ear-nose-throat specialists, and orthodontists[2], with investigation of adenotonsillar hypertrophy, craniofacial dysmorphisms, oropharyngeal abnormalities (dental malocclusions and jaw contraction), and obesity[8], followed by polysomnography or less expensive objective testing (such as home sleep cardiorespiratory monitoring or night pulse oximetry) recently validated for diagnosis of OSAS in children[8-10].

By combining the clinical profile and the results of sleep testing, and taking into account the predominant risk factors for OSAS, children can be classified into different phenotypes: a) the "classical" phenotype, a child with adenotonsillar hypertrophy with or without dental and skeletal malocclusions; b) the "adult type" phenotype, characterized by obesity and associated with aspects of the classical phenotype; c) the "congenital" phenotype, with anomalies such as micrognathia or craniofacial alterations associated with genetic syndromes. The phenotype should guide the therapeutic choice, including medical therapy (steroids and washing solutions administered as nasal spray and shower), bacteriotherapy, surgical therapy with adenoid and tonsil removal, orthodontic therapy, myofunctional treatment, and therapy with positive pressure devices[2].

Surgical therapy with adenotonsillectomy should be considered the first choice for children with severe OSAS and adenotonsillar hypertrophy, as indicated by clinical and objective testing criteria[6]. Immediate improvement may follow surgery, as measured by school performance and reduction of drug therapies. In the presence of comorbidities, adenotonsillectomy represents a first stage in the therapeutic program; in these cases, it is necessary to provide postsurgical follow-up in order to identify any patients who must undergo further treatment[6].

Orthopedic-orthodontic therapy is able to reduce the symptoms and alter the natural history of OSAS. This treatment can be integrated with both medical therapy and surgical therapy. Physiotherapists, speech therapists and nutritionists contribute to the implementation of therapy and long-term management of children with OSAS.

In this supplement to the European Review For Medical and Pharmacological Sciences Journal, we invited contributions from different specialists to promote a multidisciplinary dissemination of research on OSAS, breathing-related sleep disorders, and recurrent upper airway disease in the pediatric age, with a special focus on each specialist's approach to diagnosis and treatment of the issue and the role of recently-introduced bacteriotherapy for recurrent upper airway disease in the prevention and treatment of these conditions.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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