Editorial

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Childhood and adolescent headache: A problem not to be ignored in the era of new therapies

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In the last decade, migraine in adulthood has entered a new era due to the introduction of mechanism-based therapies, including targeting the calcitonin gene-related peptide (CGRP) system. While the classical oral drugs used for migraine preventive treatment, such as antiepileptic drugs, tricyclic antidepressants, beta-blockers, calcium antagonists and onabotulinum toxin, were initially tested and approved for non-headache conditions, newer medications, including monoclonal antibodies (mAbs) directed against either CGRP or its receptor and small molecules (gepants) blocking the CGRP receptors, were the first to be specifically designed for migraine prevention. Since their introduction on the market, these CGRP-targeted therapies have primarily improved the quality of life of adult patients suffering from migraine (1,2).

The landscape of migraine treatment in children and adolescents is far different. Indeed, while clinical studies investigating clinical efficacy and the safety of both CGRP mAbs and gepants are ongoing and just beginning completion, this leaves young patients awaiting their availability and they continue to be treated with the older medications cited above and also with nutraceuticals (3). The effectiveness of these treatments in childhood and adolescence has been difficult to separate from placebo with few randomized controlled trials suggesting their efficacy (4). The Childhood and Adolescent Migraine Prevention (CHAMP) study failed to show their superiority over placebo, although all three arms of the study (amitriptyline, topiramate and placebo) were effective in improving headache frequency and disability (5).

Pediatric headache represents a widespread problem, with a prevalence of over 60%.[6] Migraine is the headache disorder that is most frequently brought to medical attention and affects more than one in ten children and adolescents (6), and can compromise the quality of life of those suffering from severe forms. As the frequency of attacks of migraine increase, migraine may impact all dimensions of a child's life, reducing school attendance, social activities and relationship with peers, as well as and disrupting family functioning, both during the attacks and interictally (7). Migraine may be associated to other neuropsychiatric and non-neuropsychiatric conditions, for which the influence in headache severity and management is still less known in children and adolescents than in adult patients (8).

We might question whether we should simply wait for the trials with CGRP mAbs and gepants in children and adolescents to provide their results, hoping they might be positive, or, in the meantime, whether we should continue to explore the possibilities of existing treatments, with historical experience, to help children and adolescents with severe headaches reach a state of well-being. We are convinced that headaches in children and adolescents, especially those due to migraine, deserve continued scientific investigation, beyond CGRP-targeted medications to improve the lifelong outcome of patients with migraine.

The Topical collection on "Headache in Children and Adolescents", launched by *Cephalalgia*, aims to improve the general knowledge about the unique peculiarities that the different types of headache show during youth, while also recognizing that migraine is a disease that encompasses all ages, and also aims to stimulate the collection of original findings regarding the diagnosis, phenotypical presentation, and pharmacological and non-pharmacological treatment. This collection will include submissions covering a wide range of topics related to headaches in children and adolescents, including but not limited to:

- Epidemiology and burden of headache disorders in pediatric populations
- Pathophysiological mechanisms underlying pediatric headaches
- Genetic and environmental influences on headache development
- Clinical features and diagnostic approaches for common and rare headache types in children and adolescents
- Impact of headaches on school performance, social interactions and mental health
- Advances in pharmacological and non-pharmacological treatment strategies, including the addition of devices
- Preventive measures and lifestyle interventions
- Challenges and considerations in managing headaches in children with comorbid conditions
- Long-term outcomes and transition to adult care for pediatric headache patients

We truly hope to increase the interest in headaches in children and adolescents, considering also that an early intervention on this disease can prevent young headache sufferers from becoming adult patients with severe headaches.

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