



Headache in Childhood and Adolescence

Headache in Childhood and Adolescence: The Evidence

- Children and adolescents can have all types of primary and secondary headache. In particular, migraine and tension-type headache (TTH) are highly prevalent in these age groups.
- The spectrum of secondary headaches is somewhat different in children and adolescents, with a higher prevalence of inflammatory headaches and a lower prevalence of structural headaches. The rare primary headaches such as the trigemino-autonomic cephalgias are even more rare in these age groups.
- Research on specific pathophysiological mechanisms of headache in children and adolescents is sparse, but suggests that these young patients show the same mechanisms as adults.
- Treatment of headache in children and adolescents, however, is different. Therefore, at least in severely affected patients, treatment by specialists is recommended.

Diagnosis of Headache in Childhood and Adolescence

- The criteria of the International Headache Society also apply for children and adolescents.
- A careful history has to be taken, including reports by the parents and a headache diary that addresses the needs of children.
- A general and neurological examination must be performed by a pediatrician. In the case of an abnormal physical examination, an MRI scan or other procedures must be performed.

Migraine in Children and Adolescents

- Up to the age of puberty, migraine shows a prevalence of 3% to 5%, with a similar distribution between the sexes. From puberty on, the prevalence in females increases, whereas that in males decreases a little.
- The symptomatology of migraine in children and adolescents is somewhat different compared to adults: young patients have more gastrointestinal symptoms, bilateral headache, less pulsating headache, and shorter duration of headache. In childhood, very complex migraine auras can occur. There are also syndromes that are regarded as precursors of migraine, including cyclic vomiting, abdominal migraine, paroxysmal torticollis, and Alice-in-Wonderland syndrome.
- Children and adolescents respond very well to nondrug treatment, including education, relaxation therapy, physiotherapy, and biofeedback. Evidence indicates that behavioral group treatment is the best therapy.
- For drug treatment up until puberty, ibuprofen (10 mg/kg body weight) and acetaminophen/paracetamol (1 mg/kg body weight) are recommended as the primary choice. Second-line drugs are triptans (e.g., sumatriptan 10 mg nasal spray, oral zolmitriptan 2.5 mg, or oral rizatriptan). For very severe attacks, other drugs can be applied in specialized centers.
- In some cases, drug prophylaxis may be necessary to improve quality of life in children and adolescents with migraine. Two groups of drugs can be tried. One group consists of magnesium, a butterbur root extract (Petadolex), and coenzyme Q10, which all have a low level of evidence but are well tolerated. The other group consists of flunarizine 5 mg, propranolol 20 to 80 mg, and topiramate up to 100 mg, with better efficacy but more side effects.

Tension-Type Headache in Children and Adolescents

- The prevalence of episodic TTH increases linearly with age up to about 30% in puberty. Chronic TTH is very rare in children and adolescents, but it does exist. In particular, girls from about the age of 14 on presenting with TTH form a specific subgroup of patients.
- As for migraine, nondrug treatment is particularly helpful in children and adolescents with TTH.

- Acute treatment should be offered only on days with severe pain; acetaminophen/paracetamol and flupirtine are recommended.
- Only in severely affected cases of chronic TTH should prophylactic drug treatment should be considered. Amitriptyline in very low doses starting at 10 mg is also recommended for this age group.

Medication Overuse Headache

- Medication overuse headache is a chronic headache induced by intake of analgesics or other medications for acute migraine on more than 10 to 15 days per month. This condition also occurs in children and adolescents.
- Withdrawal treatment is the only way to resolve this headache. Children and adolescents need a structured educational program including no acute medication for 14 days and appropriate prophylactic treatment.

What Needs to Be Done?

- We need a better understanding of specific syndromes in children and adolescents, such as the migraine precursor syndromes.
- More headache and pain specialists should be trained in understanding headache and its treatment in children and adolescents.
- More clinical trials on specific drug and nondrug therapy for children and adolescents with headache are warranted.

References

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