

Francesca Tagliente
Francesca M. Ruju
Antonio Pascotto

Treatment of episodic and chronic tension-type headache in children and adolescents

F. Tagliente (✉) • F.M. Ruju • A. Pascotto
Child and Adolescent Neuropsychiatric
Institute,
Seconda Università di Napoli,
Via S. Pansini 5, I-80100 Naples, Italy
e-mail: ftaglio@libero.it
Tel.: +39-081-5666692
Fax: +39-081-5666694

Abstract Children frequently suffer from migraine or tension-type headaches, and the headache pain not only interferes with a patient's life but can affect his entire family. Headache management includes not only pharmacological agents but also a complete assessment of the patient's life-style and possible stressor factors, as well as an accurate assessment of his or her present episodic therapy. Stress may play a role in precipitating headache attacks, and it is crucial to keep in mind that school and interpersonal relationships are the most significant stressor factors in the adolescent life. Several factors must be considered to achieve successful treatment. The medication must be given as early as possible

and the dose administered must be sufficient. Paracetamol can still be considered as the treatment of first choice. Ibuprofen and acetylsalicylic acid should be used in patients refractory to paracetamol. There are no controlled studies on the pharmacological prophylaxis of tension-type headache in children and adolescents. However, amitriptyline may be used considering its efficacy in adults and some experience with this compound in other conditions in childhood and adolescence. In children with a disturbed home life, significant depression, or abuse, family and individual psychotherapy are indicated.

Key words Tension-type headache • Therapy • Children • Adolescents

Introduction

It is common to consider pain in adulthood and in childhood as a complex synthesis of biological, psychological and social factors.

Children frequently suffer from migraine or tension-type headaches, and the headache pain not only interferes with a patient's life but can affect their entire family.

The term "tension" refers not only to the muscular problems but also to the psychological aspects that can affect the patients.

The terminology indicates the unknown and, possibly also, the heterogeneous aetiology of tension-type headache and the vague limits with regard to other types of primary and secondary headaches. Several possible causative factors are suggested, including oromandibular dysfunction, psychosocial stress, anxiety and depression, muscular stress and drug overuse [1].

Tension-type headache, the second major type of idiopathic headache, is less severe than migraine. The associated symptoms are usually mild and neurological symptoms do not occur.

In general, the sensitivity of the International Headache Society (IHS, 1988) criteria is good but the

specificity is poor (with the exception of "mild intensity" and "absence of nausea") [2, 3].

Treatment begins by reassuring the family that their child has a benign condition, which most likely will improve within 6 months independent of treatment.

Headache management includes not only pharmacological agents but also a complete assessment of the patient's life-style and possible stress factors, as well as an accurate assessment of his or her present episodic therapy. It is widely accepted that non-pharmacological preventive measures such as sleep, hygiene, diet, and exercise may reduce headache frequency. However, no studies have been performed on children to assess the efficacy of these non-pharmacological measures.

Stress may play a role in precipitating headache attacks, and it is crucial to keep in mind that school and interpersonal relationships are the most significant stress factors in the adolescent's life [4].

For some patients, adjustments in episodic therapy alone significantly improve their headache frequency. For others, both episodic and preventive therapy will be needed.

Knowing the expectations of the patients and parents, however, is extremely helpful. Considering the expectations of the patients and parents, the first step in therapy is to provide sufficient information about the headache and to explain why there is no evidence for an underlying serious disease [5].

For treating migraine and tension-type headache in children and adolescents, a broad spectrum of therapeutic measures has been recommended, but only few have been examined in controlled trials.

Acute therapy

Several factors must be considered so as to achieve successful treatment. The medication must be given as early as possible and the dose administered must be sufficient.

Paracetamol can still be considered as the treatment of first choice, due to the vast experience with this drug, its availability as a tablet, effervescent tablet, syrup and suppository, and the low risk of adverse effects [6, 7].

Ibuprofen and acetylsalicylic acid should be used in patients refractory to paracetamol [6, 7].

Combination drugs containing two or more analgesic

compounds and caffeine must not be administered to children and adolescents.

Prophylactic therapy

There are no controlled studies on the pharmacological prophylaxis of tension-type headache in children and adolescents. However, amitriptyline may be used in view of its efficacy in adults and some experience with this compound in other conditions in childhood and adolescence [8, 9]. Unfortunately, no controlled data are available in childhood. Furthermore, biobehavioural treatments are useful in the prophylaxis of tension-type headache [10].

In children with a disturbed home life, significant depression, or abuse, family and individual psychotherapy are indicated.

We reviewed the files of 340 patients (median age, 10.7; range, 4–17 years; 196 male subjects) attending our headache clinic between January 2002 and June 2003. According to the IHS (1988) criteria of classification, migraine without aura was diagnosed in 165 patients (88 male) and migraine with aura in 5 patients (3 male). In 127 patients (57 male) the diagnosis of episodic tension-type headache was made; chronic tension-type headache was diagnosed in 29 patients (14 male). Finally, 14 patients were diagnosed as having non-classified headache. Thus, in 156 cases a diagnosis of tension-type headache was made. Throughout the tension-type headache groups, a psychiatric comorbidity was found in 52 children, and for 11 of them we suggested psychotherapy.

Prophylactic therapy was started in almost two-thirds of patients with chronic tension-type headache (38/50; 76%) and amitriptyline was the drug of choice. Patients were seen at regular follow-up intervals. At each of the follow-up evaluations, they were asked to characterize their headache using a standardized questionnaire. The patients also underwent ECGs (every 4 weeks), in order to exclude any cardiac system abnormalities. After 3 months, 32 children (85%) reported an improvement in the frequency and intensity of their headaches, whereas 6 of them were unchanged. In these non-responder patients, L-5-hydroxytryptophan and flunarizine (5 and 1, respectively) were given; however, 3 months later no improvement in pain was observed.

References

1. Headache Classification Committee of the International Headache Society (1988) Classification and Diagnostic criteria for headache disorders, cranial neuralgias, and facial pain. *Cephalalgia* 8:1–96
2. Gallai V, Sarchielli P, Carboni F et al (1995) Applicability of the 1998 IHS criteria to headache patients under the age of 18 years attending 21 Italian headache clinics. *Headache* 35:146–153
3. Wöber-Bingol C, Wöber C, Wagner-Ennsgraber C, Zebenholzer K, Vesely C, Geldner J, Karwautz A (1996) IHS criteria and gender: a study on migraine and tension-type headache in children and adolescence. *Cephalalgia* 16:107–112

-
4. Karwautz A, Wöber-Bingol C, Lang T et al (1999) Psychosocial factors in children and adolescents with migraine and tension-type headache: a controlled study and review of the literature. *Cephalalgia* 19:32–43
 5. Lewis DW, Middlebrook MT, Mehallick L, Rauch TM, Deline C, Thomas EF (1996) Pediatric headaches: What do the children want? *Headache* 36:224–230
 6. Welborn CA (1997) Pediatric migraine. *Emerg Med Clin North Am* 15:625–636
 7. Hämäläinen M L, Hoppu K, Valkeila E (1997) Ibuprofen or Acetaminophen for the acute treatment of migraine in children: a double-blind, randomized, placebo-controlled, cross-over study. *Neurology* 48:103–107
 8. Hershey A D, Powers S W, Benti A L, De Grauw TJ (2000) Effectiveness of amitriptyline in the prophylactic management of childhood headaches. *Headache* 40:539–549
 9. Wasiewsky WW (2001) Preventive therapy in pediatric migraine. *J Child Neurol* 16:71–78
 10. Hermann C, Kim M, Blanchard EB (1995) behavioral and prophylactic pharmacological intervention studies of pediatric migraine: an exploratory meta-analysis. *Pain* 60:239–255