

Chapter 131

Tension-Type Headaches and Other Nonmigraine Primary Headaches in the Pediatric Population

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Primary headache disorders include migraine, tension-type headache (TTH), cluster headaches, and other trigeminal autonomic cephalalgias, as well as other primary disorders. The previous chapter discussed migraine and its variants. The other primary headache disorders have been studied much less in children, but of these TTH is the most likely to be seen.

TENSION-TYPE HEADACHE

International Headache Society IHS code and diagnosis, World Health Organization (WHO) code and diagnosis : In contrast to the criteria of migraine, the criteria of TTH are identical for all age groups (10).

Epidemiology

TTH is the most common type of primary headache in adults. Epidemiology studies of TTH in children have been variable and have ranged from 0.9% (1) to 73% (4). Two recent studies in Turkey and Norway revealed prevalence rates of 25% and 18%, respectively (13,16). In a Swedish study (12), TTH was reported in 9.8% of 7- to 16-year-olds, and the prevalence of TTH increased to 23% if the history of recurrent headaches and duration of the headaches were excluded. In a Finnish study (2), 12% of 12-year-olds had TTH. Many of these children had migrainous features, while muscle tenderness was not a characteristic of TTH but was for migraine (3). Recently the International Headache Society (IHS) criteria have been revised (10), and new epidemiology studies will be necessary to help better characterize the frequency of TTH in children. In addition, the specificity and sensitivity of these new criteria need to be analyzed in terms of their usefulness in childhood TTH.

Pathophysiology

The pathophysiology of TTH in children should be similar to that seen in adults. Stressors that are related to TTH in children are problems at school, in the family, and in peer relations (11).

Clinical Features

The clinical features of TTH are similar in children, adolescents, and adults. A cross-sectional study in referral patients showed an increasing headache frequency and duration, an increasing variability of headache location, and an increasing frequency of nausea with increasing age. More importantly, the analgesic intake increased markedly from children to adults (15).

Management

No large-scale treatment studies have been performed in children with TTH. Recommendations for the treatment are different in Europe and the United States. In the European view, emphasis is on nonpharmacologic measures such as distraction (in mild TTH) and relaxation training, biofeedback, and cognitive behavioral therapy (for frequent or chronic TTH), whereas in the United States, pharmacotherapy is recommended. Small-scale studies have suggested that analgesics and nonsteroidal antiinflammatory medications may be useful in the acute treatment of episodic TTH, while amitriptyline may be useful for prophylaxis of chronic TTH. The dosages, adverse effects, and contraindications of acetaminophen, ibuprofen, and amitriptyline are summarized in Table 131-1. A recent meta-analysis showed that there is very good evidence that psychologic treatments, principally relaxation and cognitive behavioral therapy, are effective

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TABLE 131-1 Drugs of First Choice for the Pharmacotherapy of Tension-Type Headache

| <i>Acute Therapy</i> | | | | |
|----------------------|------------------------|-----------------------------|--|--|
| <i>Substance</i> | <i>Single Dosage</i> | <i>Maximum Daily Dosage</i> | <i>Adverse Effects</i> | <i>Contraindications</i> |
| Acetaminophen | 15 mg/kg | 100 mg/kg | Very rare, hepatotoxicity with overdose | Liver disease |
| Ibuprofen | 10 mg/kg | 40 mg/kg | Gastric pain, bronchospasm, hemorrhage | Gastrointestinal ulcer, asthma |
| <i>Prophylaxis</i> | | | | |
| <i>Substance</i> | <i>Starting Dosage</i> | <i>Maintenance Dosage</i> | <i>Adverse Effects</i> | <i>Contraindications</i> |
| Amitriptyline | 0.1–0.2 mg/kg/day | 0.2–1 mg/kg/day | Tiredness, dry mouth, nausea, obstipation, ECG abnormalities | Cardiac failure, arrhythmia, liver disease, epilepsy |

ECG, electrocardiogram.

in reducing the severity and frequency of chronic headache in children and adolescents (5).

Children and adolescents with chronic TTH should be screened carefully for comorbid disorders and psychosocial stressors (9,11). Education of the patient and parents regarding the risk of medication overuse is necessary.

Prognosis

Longitudinal studies in childhood TTH are limited. One study suggested that after 8 years, 36.1% of children with TTH were headache free, while 44.4% were having fewer than one headache per month (8).

Future Areas

Much research is needed into further characterization of TTH in children; given the mild nature of these headaches, this will require either primary care involvement or large-scale population-based studies, because most headache specialty centers tend to get a biased component of being more severe and therefore migraine-type headaches.

CLUSTER HEADACHE AND OTHER TRIGEMINAL AUTONOMIC CEPHALALGIAS

IHS code and diagnosis, WHO code and diagnosis: the criteria are identical for all age groups (10).

Clinical Features

Cluster headache is typically not thought of as a disorder of childhood with onset typically occurring between

age 18 and 40; however, in a large series of 554 patients, the age of onset of cluster headache was 10 to 19 years in 17% of the patients (6). These headaches are described as typically one-sided, with associated autonomic symptoms including tearing, flushing, and unilateral facial sweating. Cluster headaches tend to occur in groupings, oftentimes separated by months. These have been much better described and identified in adults, especially in adult men, where unlike most other primary headache disorders, the male:female ratio is reversed (see Chapter 85).

Management

Treatment of cluster headache in children and in adults is similar. Oxygen therapy as well as indomethacin has been recommended. However, no randomized double-blind studies in childhood cluster headache currently exist.

Outcome

Long-term outcome studies for cluster headaches in children have not been performed. It has been suggested that cluster headache in children does evolve into adult cluster headache.

OTHER PRIMARY HEADACHE DISORDERS

A wide variety of other primary headache disorders such as primary stabbing headache, primary cough headache, and primary exertional headache exists in children. Typically these headaches are infrequently recognized and can have unusual headache features, and oftentimes treatment is difficult or unavailable. The prevalence of these disorders

is unknown. Whether these headaches occur more frequently in children with migraine or TTH is uncertain (7,14). A trial of indomethacin is useful in primary exertional headache and hemicrania continua.

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