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Topical Review

A Review of Episodic and Chronic Pediatric Headaches of Brief Duration

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ABSTRACT

BACKGROUND: Headaches that last less than an hour in duration are uncommon, except for atypical migraine, and without a practitioner's appropriate knowledge, may result in misdiagnosis. Although most of these headaches are classified as primary headache syndromes, some have secondary etiologies such as structural lesions. **METHODS:** This pediatric-specific review updates these headache syndromes. Included are atypical migraine, the trigeminal autonomic cephalgias, idiopathic stabbing headache, cranial neuralgias, occipital neuralgia, thunderclap headache, nummular headache, the red ear syndrome, and the numb-tongue syndrome. **CONCLUSION:** Knowledge of the clinical characteristics of these headache patterns in children allows physicians to quickly establish the headache diagnosis and develop the optimal treatment plan.

Keywords: pediatric, headache, brief, episodic, chronic, review

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Introduction

Headaches are a common condition seen by pediatric neurologists. The headache prevalence rate among school-aged children has been estimated to be between 5.9% and 82% depending on the definition.[1] The most common types of chronic headache syndromes encountered are migraine and tension-type headache (TTH).

Much less commonly observed are children with episodic and chronic headaches that are brief in duration, which, for this article, are defined as headaches lasting less than an hour. Except for short-lasting migraine attacks, these headache syndromes are very uncommon and a lack of knowledge of them can result in misdiagnosis and delay in treatment. This review updates these headaches of brief duration which may occur in children and adolescents (Table). Many of these headache types last only seconds to minutes and therefore may not be thought to have an organic basis.

This review does not address brief headaches that have more obvious etiologies such as those associated with diseases of the ears, eyes, nose, mouth and teeth, or sinuses or those that have an obvious association such as primary cough headache, primary exertional headache, hypnic headache, or ice cream headache. It will also not address psychiatric and psychologic causes and associations with headaches such as school avoidance and episodic TTH that, in children, can be of brief duration. Determining whether a headache is psychologically based can be challenging because children with headache syndromes such as migraine can have comorbid psychologic or psychiatric symptoms.[2] Psychologically-based headaches in children have been reviewed.[2-4]

Although most of these headache syndromes have been rarely reported in children and adolescents, practitioners should be aware that brief headaches may have an organic basis. These headache types are considered primary headache syndromes according to the International Classification of Headache Disorders (ICHD) of the International Headache Society.[5] However, secondary causes have been detected in children for some of these brief headache syndromes.

Atypical migraine

Some practitioners have experienced difficulty in applying the ICHD-2 and ICHD-3 criteria to children with

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TABLE.
Clinical Characteristics of Headache Syndromes

Headache Type	Usual Location	Usual Duration	Usual Intensity	Autonomic Symptoms	Multiple Daily Attacks*	Usual Therapy	Triggers	Possible Secondary Cause
Atypical migraine	F/T	<1 hr	Mod/S	No	–	Tricyclics/AED	Many	No
Cluster	Or/F/T	15-190′	Mod/S	+/–	+	O2/triptans/steroid	No	No
Paroxysmal hemicrania	F/Or/T/occipital	min	Mod/S	+/–	+	Indomethacin	No	Yes
SUNA/SUNCT	Or/T/F	seconds-min	Mod/S	Prominent	+	Tricyclics/AED	No	Yes
Idiopathic stabbing headache	None	seconds	Mod/S	–	+	AED/tricyclics	No	Yes
Cranial neuralgi	Depends on type	seconds-min	Mod/S	–	+	AED	Drinking/eating/ brushing teeth/hair	Yes
Occipital neuralgia	Occipital/neck	seconds-min	Mod/S	–	+	Analgesics/AED	No	No
Thunderclap headache	None	min	S	–	–	Depends on cause	No	Yes
Nummular headache	Parietal	seconds-min	M/Mod	–	+	AED/tricyclics	Palpation	No
Red ear syndrome	Ear/cheek	30-60′	M/Mod/S	–	+	Varies	Many	Yes
Numb-tongue syndrome	Occipital/neck	seconds-min	M	–	–	Conservative	Head movement	Yes

Abbreviations:
AED = Antiepileptic drug
F = Frontal
M = Mild
Mod = Moderate
Or = Orbital
S = Severe
SUNA = Short-lasting unilateral neuralgiform headache attacks with cranial autonomic symptoms
SUNCT = Short-lasting unilateral neuralgiform headache attacks with conjunctival injection and tearing
T = Temporal
* This category denotes that multiple attacks within a day are not uncommon but does not connote that the attacks occur every day.

headache, especially migraine.[1,5,6] This is confounded by the coexistence of several headache types in some children with migraine. The ICHD-2 allowed headache duration of as little as 1 hour to fulfill the criteria for pediatric migraine.[6] However, the ICHD-3 requires duration of at least 2 hours for a diagnosis of pediatric migraine. It notes that evidence of headaches that are less than 2 hours duration to migraine has not been substantiated.

Studies of children with a clinical diagnosis of migraine demonstrate that 11% to 81% have a headache duration of less than 2 hours and 8% to 25% have a headache duration of less than 1 hour.[7-9] Some of these studies indicated that children with briefer headaches also fulfilled the International Headache Society criteria for migraine.[10] A more recent study of pediatric headache attributed to migraine documented headache duration from 5 to 45 minutes.[11] In fact, some migraine-equivalents are often brief in duration, lasting seconds to minutes.[12]

Some children with brief headaches have other migraine symptoms but do not fulfill criteria for one of the brief headaches described in the following or listed in the ICHD-3. This is especially likely in the very young patient whose atypical features are attributed to the need to rely mostly on the child's behavior to infer symptoms, severity, and duration associated with the headache. Although this issue remains unresolved, it is possible that some children with headaches of less than one hour's duration will develop typical migraine and may respond to migraine medication.

Trigeminal autonomic cephalgias

The trigeminal autonomic cephalgias (TAC) are usually lateralized and have prominent associated autonomic symptoms.[5] Common autonomic symptoms include the following: conjunctival injection or lacrimation, nasal congestion/rhinorrhea, eyelid or cheek edema, forehead and facial sweating or flushing, sensation of fullness in the ear, miosis, ptosis, and a sense of aural fullness. These autonomic symptoms are frequently ipsilateral to the side of the pain. TAC syndromes include cluster, paroxysmal hemicranias, short-lasting unilateral neuralgiform headache attacks with cranial autonomic symptoms (SUNA), and short-lasting unilateral neuralgiform headache attacks with conjunctival injection and tearing (SUNCT). Because of their rarity, there is often a delay of several months to years in the diagnosis of pediatric onset TAC.[13] They have been reported in all groups including a suspected case in infancy.[14]

Cluster

Cluster headache is rare in children, with population prevalence rates of childhood onset of approximately 0.1%.[1,15] It has been suspected in children as young as one year old[16] but is rare in children less than 10 years of age.[1,17] Cluster is a very severe headache, unilateral, characterized as boring or burning, most intense in the orbital or supraorbital region and may have autonomic symptoms.[18,19] Duration can vary between 15 and 180 minutes, and it can occur multiple times throughout the day.[5] Children are restless during the headache, which distinguishes it from migraine. However, there are some differences between children and adults with cluster headache. Children tend to be less restless and have less prominent autonomic features. They have a lower frequency of the cluster interval, a shorter duration of the cluster bout but a trend toward a gradual increase of frequency and duration of symptoms as they enter the adult years.[13] There are many effective