Headache
In Children: Updated

Essay

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List of Abbreviations

AMA	: American medical association
AVM	: Arteriovenous malformation
BPV	: Benign paraxysmal vertigo
CDH	: Chronic daily headaches
CT	: Computed tomography
CVS	: Cyclical vomiting syndrome
ETTH	: Episodic tension type headache
FHM	: Familial hemiplegic migraine
GCS	: Glasgow coma scale
ICHD	: International classification of headache disorder
ICP	: Intracranial pressure
IHS	: International headache society
LP	: lumbar puncture
MOH	: Medication over use headache
MRI	: Magnetic resonance imaging
MWA	: Migraine with aura
MWOA	: Migraine without aura
NIH	: National interview of health
NO	: Nitric oxide
NOS	: Nitric oxid synthase
NSAIDs	: Non-steroidal anti-inflammatory drugs
Ped MIDAs	: Pediatric migraine disability assessments
PTH	: Post-traumatic headaches
SAH	: Subarachnoid hemorrhage
SHM	: Sporadic hemiplegic migraine
TTH	: Tension type headache

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Headache in children: Updated

By: Nermeen Abd El-Halim Ali.

Pediatric headache is a common problem similar to headaches that adult experience and increase in frequency during adolescence. Data from multiple studies have shown the prevalence of headache to be in the range of 37%-51% in 7 years old, growing steadily to 57%-82% in 15 years old, no sex differences in apparent until age of 11 years. Environmental factors, together with genetic (or familial) factors have been suggested to explain the occurrence of headache. An understanding of the pathophysiology of headache must first with a knowledge of which intra-cranial structures are pain sensitive. Several theories exist to explain the mechanism of headache including: 1) the vascular theory; 2) the neuronal therapy; and 3) the trigeminal vascular therapy. Primary headache implies no underlying treatable medical or surgical cause, whereas secondary headache implies underlying treatable medical or surgical cause.

The evaluation and management of pediatric headache requires close attention to detailed headache history, physical, neurological and ophthalmologic examination and when indicated, specific neuroimaging studies. The treatment plan of primary headaches for children includes acute therapy, preventive therapy and biobehavioral therapy. Biobehavioral therapy can roughly be divided into treatment adherence, life style management and psychological intervention. The main alternative therapies which used in

treatment of headache are acupuncture, homeotherapy, nutritional factors, phytotherapy, aromatherapy and hypnosis.

Migrain is one of the most common types of headache in children. The diagnosis of migraine is based on the typical patients history and a normal neurological examination. Treatment of migraine headache includes analgesics, vasoconstrictors, sedatives, anti-emetics and other modalities.

Tension type headache (TTH) is though to be the most common type of primary headache disorder, with a life time prevalence ranging from 30-78%. The 2004 classification of TTH distinguishes three subtypes are infrequent episodic tension type headache, frequent episodic tension type headache (ETTH) and chronic TTH.

Post-traumatic headaches (PTH) is one of the most common complaints in patients after mild, moderate or severe traumatic brain injury. Approximately 30% to 70% of children suffer with post-traumatic headache after blunt or open injury to the head or brain.

Cluster headaches are described as severe attacks of pain, often referred to as sharp, drilling, boring or stabbing, that is localized to the orbital, peri-orbital or temporal region. Cluster headaches have a prevalence up to 0.9% in general populate, compared with approximately 0.1% in children and adolescent, with a slight male predominance.

Introduction

Headache is a common complaint occurring in >90% of school age children. The frequency increases with age and etiologies range from tension to life-threatening infection and brain tumors ***(Jan, 2007)***.

The International headache society (HIS) classification separates headache into primary and secondary disorders. The four categories of primary headaches include migraine, tension-type headache, cluster headache and other trigeminal autonomic cephalalgias ***(Lipton et al., 2004)***.

In childhood and adolescence migraine is the main primary headache. This diagnosis is largely underestimated and misdiagnosed in the pediatric population because of the lack of specific biologic markers, specific investigation tools or brain imaging techniques, these clinical entities are too often considered to be a psychological illness ***(Annequin, 2005)***.

Migraine attacks of mild or moderate intensity should initially be treated with non-steroidal anti-inflammatory drugs (NSAID) ***(Hoffmann et al., 2007)***.

In recent years, migraine treatment options have expanded to the extent that the practicing clinician now has a myriad of pharmacologic agents in varied drug classes and

delivery systems from which to choose ***(Kaniecki et al., 2006)***.

Sierpina et al. (2007) reported that mind-body therapies such as biofeedback, cognitive behavior therapy, hypnosis, meditation and relaxation training can affect neural substrates and have been shown to be effective treatments for various types of headache.

Aim Of The Work

The aim of this work is to highlight updates of headache and its management guidelines in children.

Introduction

Pediatric headache is a common problem similar to headaches that adult experience and increase in frequency during adolescence. Pediatric headaches can be divided into primary and secondary disorders and rare neuralgias. Primary headaches are the headaches not attributed to another cause and one most likely due to the etiologies of the central nervous system, secondary headaches are those headaches directly attributed to a secondary cause. Parents and primary care providers frequently conclude that the patients have secondary headaches, although it is often a primary headache misdiagnosed as a secondary headache ***(Cady et al., 2002)***.

The differential diagnosis of headache is one of the longest in medicine, with more than 300 different types and causes. The physician must diagnose headache as precisely as possible. Although most headaches are of benign and still of poorly understood origin, as migraine and tension type headaches, some secondary headaches can have serious and sometimes life-threatening cause such as brain tumors and idiopathic intra-cranial hypertension. In (2004) Lipton and his colleagues stated that the 1988 classification of the International Headache Society (IHS) has been the accepted standard for headache diagnosis, establishing both uniform terminology and consistent operational diagnostic criteria for the entire range of headache disorders ***(Evans, 2005a)***.

The most common recurrent headache in children and adolescents is episodic tension type, which has the same clinical picture as in adults. Life stresses are often the underlying cause. Depression and anxiety may result from poverty pressure, excessive parental expectations, conflict with teachers, and physical or sexual abuse. The headache is often diffuse, present to some degree almost continuously, and unaccompanied by physical signs ***(Boes et al., 2004)***.

Another example is migraine, where correct diagnosis is very important as the inappropriate treatment can result in inadequate relief and poor patient outcome. Approximately, half of migraine sufferers have not received a diagnosis. The diagnostic criteria provided by the International Headache Society offers a great help in reaching a precise diagnosis ***(Landy, 2004)***.

As regards the treatment of children and adolescent with any type of headache, this requires the consideration of both pharmacologic and non-pharmacologic measures in the context of the degree of disability produced by the headache. For example, ibuprofen and acetaminophen are probably effective and either can be considered for the acute treatment of migraine, while in episodic tension type headache adequat sleep, regular exercise, and avoidance of caffeine are beneficial ***(Lewis et al., 2004 and Evans, 2005b)***.

Epidemiology:

Headache is a common symptom that constitutes a major health-problem to all countries in the world with a variable prevalence from about 20.2% in the African population to about 80% in population of the civilized world. Community-based studies in African populations are still Scanty ***(Matuja et al., 1995)***.

A study by ***El-Ghamrawy and his collegues*** in ***(2001)*** revealed that the prevalence rate among school children complaining recurrent headache in Sharkia governorate in Egypt was estimated to be 0.6% as total prevalence, 0.65% in males versus 0.56% in females. In general, headache is one of the most 10 common reasons for outpatient physician visits. Patient typically present with head and facial pain because the discomfort is severe, interferes with work, or other activities, or raises concern about a serious underlying cause ***(Bartleson et al., 2004)***.

In ***(1962), Bille*** reported on his pivotal study performed between 1957 and 1961 in which 8993 children were observed, he found that 90% of children had a significant headache before the age of 7 years, while 75% had a significant headache before the age of 15 years. Approximately, 4% of these patients between the ages of 7 and 15 years were thought to have migraines.

In ***(2002) Lewis et al.*** examined more than 27,000 children; by the age of 7 years, 37% to 51% of children