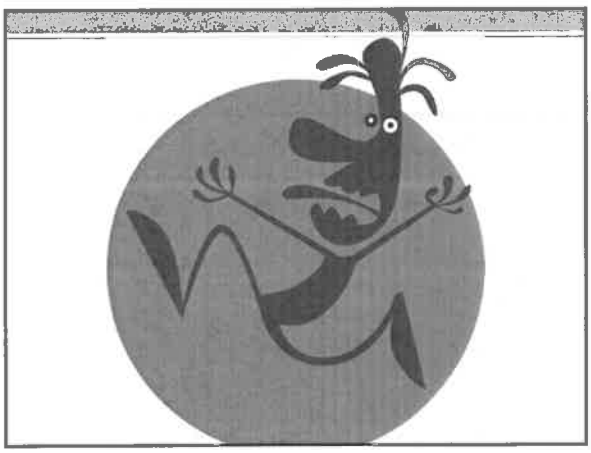
HEADACHES IN KIDS

College of Emergency Nurses NZ conference
04/11/2016



Headache

75% children

ICHD-III Primary or Secondary

Primary
Migraine headache
Tension-Type headache
Cluster headaches

Secondary
Due to another medical condition

EXCLUDE OMINOUS HEADACHE

History

Define characteristics of the pain
Onset/time of day
Trigger/relieving factors
Location
Severity
Duration
Radiation
Pattern
Associated features
Aggravating factors
Treatment
Family Hx of migraine
What do you think is causing the headaches?
Past Hx of trauma?
How many different kinds of headache do you have?
Impact on activities of daily living
HEADSS

Physical exam

Vital signs- temp and BP
Full neurological exam
Inspect mouth and jaw
Percussion of sinuses
Kernig sign
Brudzinski sign

Head circumference

Brain tumour headaches

Severe, incapacitating pain, often increasing in frequency or severity
Headache occurring in absence of previous headache or change in chronic headache pattern
Vomiting that is persistent, increasing in frequency or preceded by recurrent headache
Occipital or frontal, often focal
Awakens from sleep or pain on arising
Worse with valsalva-like manoeuvres
Negative FHx migraine
Associated neurologic findings

Barlow *Am J Dis Child* 1982;136:99

Brain Tumour Headache

Brain tumour headaches are associated with neurologic findings in 85% cases within 8 weeks

- papilloedema
- strabismus
- weakness
- ataxia

Honig *Am J Dis Child* 1982;136:121

Meningitis/encephalitis

Post-concussion headache

Idiopathic Intracranial Hypertension

Mainly in females
Headache typically positional
Temporal visual impairment
Diplopia
Transient visual obscurations
Papilloedema
Diminished visual acuity
Restricted visual fields

Idiopathic Intracranial Hypertension: causes

Sagittal sinus, lateral sinus thrombosis
Obesity
Pregnancy
Endocrine: hyperthyroidism
Drugs: tetracycline, retinoic acid, vitamin A
Iron deficiency anaemia
SLE
Addison's and Cushing's disease, steroid withdrawl
Acromegaly
Idiopathic

Idiopathic Intracranial Hypertension: treatment

Address underlying cause
Ophthalmology consult and follow formal visual field assessment
Acetazolamide 25mgs/kg
Frusemide 2mg QID
Serial LPs
Monitor electrolytes

Concern re ominous headache

Investigations

CT scan if....
- Focal symptoms
- Progressive symptoms
- Symptoms of raised ICP
- Abnormal neurologic exam
- New onset seizure

LP if...
- Infection
- Idiopathic intracranial hypertension

MRI if...
- History suggestive of vascular event

Primary headache

Migraine
- Migraine without aura
- Migraine with aura

Tension-Type headache

Cluster neadache

IS THIS MIGRAINE?

Migraine

ICHD III
5 attacks fulfilling criteria
2- 72 hours duration
2 of the following 4 features:
Location (<15yrs usually frontal)
Pulsing quality
Moderate to severe intensity
Aggravated by activity
PLUS
Nausea and/or vomiting
or
Photophobia *and/or*
Phonophobia *inferred*

Characteristics of childhood migraine

- Male predominance: 60%
- Minor head trauma a common precipitant
- Headache less often unilateral
- Associated prodrome
- Auras less common: visual, sensory or motor
- Aggravated by routine physical activity

Migraine without aura

Most common form
Bilateral or bifrontal in location
Headache lasts 1-72hrs
Pain is moderate or severe
Prodromal features-lethargy, mood change, yawning
Pounding, pulsating, throbbing
Worsened by physical activity
Concurrent autonomic symptoms- nausea, vomiting, pallor, syncope
Photophobia and phonophobia inferred

Migraine with aura

Visual, sensory or motor changes
Headache usually occurs with aura or within 60mins

Tension-type Headache

Can last from 1hr to 1 week
Non progressive
Bilateral or diffuse in location
"Pressure" "tightness" in quality
Pain is mild to moderate
No photophobia or nausea
Not aggravated by routine physical activity
Infrequent, frequent or chronic
Rx- stress management

"Sinus headache"

Common misdiagnosis
Cranial autonomic symptoms
- Lachrimation
- Scratchy eyes
- Rhinorrhoea
- Ear pressure/fullness

Activation of the trigeminal autonomic reflex

Chronic daily headache

- Chronic non progressive headache with pulses of acute pain
- Location-bifrontal
- Severity-varies
- Frequency of daily headaches in adolescents is approx 75%
  > 15 episodes /month in approx 25%
- F:M 3:1

Rx Lifestyle changes, time management, behavioural therapies, simple analgesia

Cluster headaches

Rare in children

Headaches in children

1. Exclude ominous headaches
2. Consider migraine
3. Optimize non-pharmacologic techniques

Common triggers of migraine

Stress/anxiety
Menstruation
OCP
Physical exertion
Lack of sleep
School work
Foods
Glare
Weather changes
High altitude
Refractive error
Fasting

Dietary triggers of migraine

Foods
Aged cheeses
Avocado
Nuts
Sour cream
Yoghurt
Bananas

Sodium nitrite
hot dogs
bacon
processed meats

Caffeine
Coffee
Tea
Some pain relievers

Cold foods
Icecream

MSG
Broad beans

Migraine management

Reassurance
Patient and parent education: headache diary
Individually tailored treatment plan
General non-pharmacologic treatment
- Avoid triggers
- Sleep regulation
- Daily exercise
- Alcohol abstinence
- Consider discontinuing OCP

Pharmacologic treatment

Headaches in children

1. Exclude ominous headaches
2. Consider migraine
3. Optimise non-pharmacologic techniques
4. Pharmacologic treatment

Migraine treatment

Acute treatment
- Analgesics
- Antiemetics
- Abortive treatment

Preventive

Analgesics

Ibuprofen (10 mgs/kg/dose q 8hrly)
Acetaminophen (15mgs/kg/dose q 4-6hrly)
Naproxen (10-20 mgs/kg/day)

..... STOP HERE.. .....

Codeine
Tramadol
Morphine

2 studies have found ibuprofen superior to acetaminophen and placebo

Antiemetics

Not well studied in paediatrics for migraine
Ondansetron

Study by Richer et al in Headache 2014 looked at 45 children

Preventive Rx

Reduce attack frequency, severity and duration
Improve responsiveness to treatment of acute attacks
Minimal absolute number of headaches/month not established

Need to be taken for 6-8 weeks

Other forms of migraine in children

Confusional migraine

Mainly boys
Perceptional distortions are cardinal feature
Abruptly become agitated, restless, disorientated and occasionally combative
Inability to communicate, confusion, frustration upon return to normal
Often do not recall a headache
Often occurs following seemingly innocuous head injury

Complicated migraine
Hemiplegic migraine

Transient focal defects
- Speech
- Visual fields
- Hemiparesis

Deficits may precede the onset of headache and may also persist following the headache
Familial and sporadic forms exist

WHAT DO YOU THINK?

Case 1

2 yr old girl has chronic otitis media.
Presents following secondarily generalised seizure that began in left arm
"Sore head" and temp to 38.4 over past five days. Vomit x 2.
Exam reveals L suppurative OM and mild left hemipareisis

Case 2

14 yr old male with pustulocystic acne has had frontal headache for past week
On isoretinoin.
SNA'd last evening for same and had CT scan head which was normal. Rx ibuprofen and discharged.
Exam unremarkable. Fundoscopy difficult

Case 3

13 yr old girl with Hx choroid plexus papilloma (benign tumour) completely resected 6 yrs ago.
Presents with 8 month Hx of constant bitemporal headaches
Top student but cries when you enquire about stress.
Exam unremarkable.

Case 4

10yr old boy presents with 3rd headache in past 2 months
Pain is bifrontal, pounding, sharp and severe.
Pain present for past hour
PHx motion sickness at age 4 yrs
Exam unremarkable

Case 7

13 yr old girl presents with frontal headache over past month.
Outstanding student.
Rep netball player although in last two weeks, ability to shoot accurately has deteriorated.
She has woken from sleep past two nights with headache and had a headache on rising this morning.

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