

Migraine in Children

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(Edited by Peter Murphy)

The following discussion is based on the presentation made by Dr. Bryan Lynch, Consultant paediatric Neurologist, Temple Street Hospital Dublin at our September seminar in Cork.

Between 4% and 11% of children have Migraine. It can be present in infants only a few months old. Migraine in children can be very difficult to diagnose because the syndromes are different, yet the treatments are quite similar and there is a favourable outlook for its treatment.

There are a number of differences between Migraine in children and adult Migraine. There is a greater incidence of vomiting in children and the headaches are often shorter in duration. Also, diet would appear not to be as important a factor in children. To make the situation more complicated, there are a number of 'Migraine Equivalents' or conditions which appear to be similar in nature to Migraine. Although these 'Equivalent' conditions are rare, some detective work is often necessary to rule them out. It is always very helpful if parents can accurately point out the features of their child's condition.

It is estimated that 55% of children migraineurs suffer from Migraine without Aura and that 40% suffer from Migraine with Aura. The remaining 5% include those suffering from Basilar Migraine (symptoms may include blackouts), Hemiplegic Migraine, Ophthalmoplegic Migraine (Paralysis of eyes), Acute Confusional Migraine and the above-mentioned category of 'Migraine Equivalents'.

A diagnosis of migraine is made almost entirely on the details given to the doctor by the patient. The same conditions need to be met for diagnosing migraine in children as in adults. For example, the headaches must be recurrent and the patient must be otherwise normal between attacks. The doctor will also look for a family history of migraine. Apart from a regular examination, further tests (CAT scans etc.) are normally not needed if the diagnosis is clear from the account given by the patient/parent(s).

When diagnosing Migraine in children, the Pinsky criteria are used. These criteria stipulate that at least 3 of the following 6 features must be present in order for a diagnosis of migraine to be made:

- One-sided headache
- Throbbing
- Aura
- Relief attained by rest/ sleep
- Nausea, Vomiting or Abdominal Pain
- Positive family history of migraine.

Migraine with Aura is defined as having 'one or more fully reversible aura symptoms of duration not more than 1 hour'. These aura symptoms can be visual in nature. Many patients report zig-zag lines; Flashing lights; Blurred Vision and Darkened vision. The Aura period is also represented by dizziness, unsteadiness and a number of other unusual sensations.

New criteria now define Migraine without Aura. The test used is:

- A. At least 2 of B,C,D must be met
- B. Duration of pain between 30 minutes and 48 hours.
- C. Two of the following 3 symptoms are present –
 - ▶ Pain located at either front or at temples and can be present on either one or both sides of the head.
 - ▶ Pulsating pain
 - ▶ Worsened by Physical exercise
- D. During the headache, 1 of the following must be met:
 - ▶ Intolerance to light or sound.
 - ▶ Nausea / vomiting

As mentioned earlier, there are a number of 'Migraine Equivalent' conditions which may develop later in a child's life to become regular adult migraine.

One of these is Abdominal Migraine. This consists of a recurrent stomach pain and may include vomiting. In this form of migraine, there may not even be a headache. If a headache occurs, it is normally a very mild one. Many children who suffer from this grow up to have Adult migraine. It is an underdiagnosed condition in children and can often be confused with appendicitis.

Another Childhood 'Equivalent' is Cyclical Vomiting. Sufferers of this condition experience episodes of severe vomiting, often leading to dehydration. The child may also become drowsy or confused. Tests are normally needed to rule out the existence of other disorders. Again, a lot of young patients who are diagnosed with this condition see it develop into full Migraine during adulthood.

The third Equivalent I would like to mention is called Benign Paroxysmal Vertigo. This is a rare condition which normally begins between the ages of 2 and 6 years. The child becomes unsteady and frightened periodically, but is perfectly normal between attacks. The attacks can last for several minutes. Again, tests are normally needed to rule out other, more serious conditions.

The final equivalent that I would like to mention is Paroxysmal Torticollis. This is witnessed only in toddlers and infants. It is identifiable if the child regularly tilts his/her head to one side and suffers from bouts of nausea or vomiting. Attacks can last for days. Brain scans and tests are the norm again. In one particular case, a 7 month old girl showed the above signs but also, the attacks occurred every 3 weeks on the dot. Multiple scans and tests all failed to show any abnormality. Propranolol, a regularly used preventative medication in adult migraine gave the young patient great relief up to the age of 19 months. At this stage, she experienced a violent attack. By the age of 2, vomiting was becoming a very prominent feature and again there was a severe recurrence. Nifedipine was used instead of Propranolol and this led to a dramatic improvement. By the age of 3 and a half, the patient was taken off medication. Severe episodes occurred again and she was hospitalised at one stage. Head pain was occasionally cited, but vomiting was still the main problem. By the age of 4 and a half, the episodes were lasting for up to 5 days at a time.

It is worth noting that Sinusitis is an overdiagnosed cause of head pain in children. It is actually very difficult to diagnose and is often blamed in the wrong. Of course, there are many more causes of head pain in children, which I do not have time to go into, but at a mention, these include

Brain Tumours

Abnormal Blood Vessels
High Blood pressure (rare in children)
Hydrocephalus (Water on the brain)
High pressure on spinal fluid
Disorders of Body Chemistry

Parents should seek medical advice if headaches occur in young children. It is also recommended that you bring the child to the doctor if headaches are very prolonged, always on the same side or accompanied with coughing/sneezing.

Once a correct diagnosis of migraine is made, management of the condition becomes important. The child should be given support and reassurance in relation to the condition. A Headache/Migraine Diary is useful. The parent or child should record dietary (type of food; gaps between meals etc) and lifestyle details (stress, physical exercise, sleep) in the diary. Migraine normally occurs in high achieving children and can often be stress related. Relaxation is a good management tool and counselling and biofeedback could also be considered.

Prescribing medication is rare in children. Paracetamol is an appropriate medication as long as the appropriate dose is given as early as possible in the attack. It is very important that you avoid frequent use. Aspirin should be avoided in children. Anti-emetic medication may also be used if the child has vomiting/ nausea symptoms. Triptan drugs, which are so effective in adults have not been studied well with regard to their success in children.

Preventatives are also rarely used in children. They will only be prescribed if the child is missing school or when he/she is socially disabled by regular headaches and management/lifestyle measures have proven ineffective. In cases when preventatives are used, beta blockers such as propranolol, calcium channel blockers, Serotonin reuptake inhibitors (Sanomigran) and various anti-epileptic drugs can be used effectively to prevent migraine.

Up to 50% of children remit or grow out of migraine. Boys are more likely to remit than girls. In fact, up to 60% of female children sufferers will relapse by their 30's. It has also been shown that the more severe migraine is in childhood, the more likely it is to persist throughout adult life.