B.I.		Yamout ^a
W.A.		Farhat ^a
I.		Nuweihed ^c
I.M.		Hushaymi ^b

Department of ^aInternal Medicine, Division of Neurology and Surgery, ^bDivision of Neurosurgery, and ^cFaculty of Health Sciences., American University of Beirut, Lebanon

Changes in Migraine Symptoms from Childhood to Adolescence

Dr. B.I. Yamout, Department of Internal Medicine, American University of Beirut Office, 850 Third Avenue, 18th floor, New York, NY 10022 (USA)

Headache is a common symptom in children. Scandinavian estimates of the frequency of recurrent headache in children range from 4 to 27% [1–3], migraine being the most common cause [4, 5]. None of the many studies on the diagnosis and treatment of migraine [6, 7] addresses a possible change of symptoms with age. Therefore, we reviewed a personal series of childhood migraine cases and analyzed changes in frequency of the different symptoms with age.

The study population included all patients between the ages of 6 and 16 years who presented with a headache at a single private neurological clinic between 1990 and 1992. Laboratory and special tests including EEG and CT brain scan were done as indicated.

The criteria for inclusion in the study were (1) recurrent headaches for more than 3 months with clearly identified pain-free intervals, and (2) no clinical or laboratory evidence of an underlying disease that could explain the headaches. Patients were asked about nausea, vomiting, aura, bilaterality or unilaterality of pain, sonophobia, and photophobia. Information was obtained during the first visit to the clinic. Statistical significance was tested using χ^2 analysis after dividing the subjects into various age categories174

Table 1. Distribution of known migraine headache symptoms by age among 61 young patients presenting at one clinic between 1990 and 1992

Age
Patients,
n
Number and percent of patients with known migraine headache symptoms in each age group

group
male
female
vomiting n %
nausea
aura

BP

UP

sonophobia n %
photophobia
hobia

n
%
n
%
n
%
n
%

%

6-8
6
7
1
8
5
38
2
15
2
15
4
31
2
15
0
0
9-11
10
7
2
12
13
77
0
0
7
41
7
41
3
18
4
2 4 1
3 2 0
12-14
8
8
3
19
5
31
5
31
6
37
6
37
4
25
2

15-16
5
10
3
20
5
33
2
13
4
27
5
33
5
33
3

Total
29
32
9
15
28
46
9
15
19
31

22
36
14
23
9
1
5

p value

0.76

0.02

0.09

0.43

0.94

0.65

0.30

p value for trend
0.30

0.22
0.48

0.66

0.98

0.22

0.78¹

BP

Bilateral pain; 1
UP = unilateral pain

V

Test for trend excluded age group
6–8.

A total of 77 patients between the ages of 6 and 16 years presented to the clinic between 1990 and 1992. Only 61 fulfilled the inclusion criteria. The mean age of the 61 patients was 11.59 years (SD 3.14); the subjects included 32 girls and 29 boys. Twenty-six of the 61 patients (43%) reported a positive family history. The highest reported symptom in all patients was nausea (46%) followed by unilateral pain (36%), bilateral pain (31 %), sonophobia (23%), and vomiting, aura, and photophobia (each 15 %). The auras reported by our patients were all visual in nature. Due to the small number of patients in each age category, the patients were divided into four age groups (6–8, 9–11, 12–14, 15–16 years old). Table 1 presents the distribution of known migraine/headache symptoms by age group. A proportion of the patients did not show any upward or downward trend with age for all symptoms except for vomiting and sonophobia. The slope of these two symptoms gradually increased with age but the change was not statistically significant (p = 0.30 and 0.22, respectively).

The symptoms reported by patients less than 12 years old (n = 30) were then compared to patients of 12–16 years of age (n = 31). No difference was noted in the reporting of migraine symptoms between these two groups except for nausea. The younger age group was three times more at risk for reporting nausea than the older group [odds ratio = 3.15, 95% confidence interval 0.98–10.38]. In contrast, the older age group was at a fourfold risk for reporting aura, but the difference was not statistically significant (p = 0.08).

Migraine occurs in 4–10% of school age children [1,2]. Many of them have a history of periodic cyclic vomiting, episodic vertigo or, rarely, transient neurological deficits such as hemiparesis, ptosis, diplopia and ataxia without headache [1,8–11]. The criteria for the diagnosis of migraine in children are not standardized, in contrast to adult migraine, for which there are clear diagnostic criteria set by the International Headache Society [12]. Most pediatric neurologists feel that the latter can only partially be applied to children. Vahlquist [6] proposed the following diagnostic criteria: paroxysmal headache separated by pain-free intervals and at least two of the following: nausea, hemicrania, scotomas and hereditary predisposition.

In this study we could not use the symptoms of migraine as inclusion criteria since our aim was to assess their frequency in different age groups. In order to differentiate migraine from chronic tension-type headache, pain-free intervals were required. Distinguishing between episodic tension-type headache and migraine without aura, however, may be difficult even with more detailed diagnostic criteria. We excluded any underlying disease by a thorough physical examination and appropriate laboratory and radiologic investigations. Our inclusion criteria were therefore meant to encompass most migraine patients, while eliminating patients with other types of headache, and allowing the analysis of symptom frequency in different age groups.

This study suggests no major differences in the proportion of symptoms reported over the age span of 6–16 years. An upward trend is suggested for vomiting, sonophobia and aura, although it is not statistically significant. A larger sample size could have confirmed or eliminated this observation. Another limitation of this study is the fact that all patients were ascertained from one clinic. This could have biased the findings in unknown directions. On the other hand, the use of one clinic assured a standardized approach for diagnosis and documentation.

References

Bille B: Migraine in school children. Acta Paediatr Scand 1962;51 (suppl 136).

Oster Y: Recurrent abdominal pain, headache and limb pains in children and adolescents. Pediatrics 1972;50:429–436.

Sillanpaa M: Prevalence of migraine and other headaches in Finnish children starting school. Headache 1976;15:288–290.

Sillanpaa M: Changes in the prevalence of migraine and other headaches during the first seven school years. Headache 1983;23:15–19.

Waters WE: Epidemiology of migraine; in Pierce J, Heinneman W (eds): Modern Topics in Migraine. London, Medical Books, 1967, pp 12–13.

Edmeads J: Migraine markers. Headache 1988;28:568.

Prensky AR, Sommer D: Diagnosis and treatment of migraine in children. Neurology 1979;29:506–510.

Fenichel GM: Migraine as a cause of benign paroxysmal vertigo of childhood. J Pediatr 1967;71:114–115.

175

9 Holguin J, Fenichel G: Migraine. J Pediatr 1967;70(suppl 136):290–297.

Vahlquist B, Hackzell G: Migraine of early onset: A study of thirty one cases in which the disease first appeared between one and four years of age. Acta Paediatr 1949;38:622–636.

Hockaday JM: Migraine and its equivalents in childhood. Dev Med Child Neurol 1987;29:258–270.

Headache Classification Committee of the International Headache Society: Classification and diagnostic criteria for headache disorders, cranial neuralgias and facial pain. Cephalalgia 1988;7(suppl 8): 1–96.

New York, NY 10022 (USA)