

# MIGRAINE: EPIDEMIOLOGICAL ASPECTS OF 17 MALAYSIAN PATIENTS.

C.S. KAM

## INTRODUCTION

MIGRAINE is a common disease that occurs worldwide. Up to the present time, however, there is no report from Malaysia. This communication is a report of epidemiologic aspects of 17 Malaysian migraineurs.

## MATERIALS AND METHODS

This report is based on a personal series of the first 17 consecutive migraineurs who attended the Neurology Clinic of the Universiti Kebangsaan Malaysia situated at the General Hospital, Kuala Lumpur, between January and October 1979.

Information was obtained from each patient by personal interview at the initial consultation. It consisted of personal particulars and a detailed history of the illness, especially concerning the length of disease, precipitating factors, relieving factors and family history of migraine.

The criterion for diagnosis of migraine in all 17 migraineurs was recurrent headaches separated by free intervals, with at least 2 of the following 4 symptoms: nausea, visual aura, unilateral ache and heredity, i.e. migraine in parents or siblings (Vahlquist, 1955).

## RESULTS

Data from the 17 migraineurs are summarised in Table I. The age at presentation ranged from 16 years to 58 years, with a mean of 34 years and a median of 32 years. Patients were quite evenly distributed among the decades between 10 and 60 years. Children were absent from this study because hospital policy precluded them from attending this clinic. Females presented at a

younger age than males; the mean age was 27 years versus 42 years. This was reflected in each of the 3 ethnic groups: females were younger than males in the Malays, Chinese and Indians respectively. The age distribution in each of the 3 ethnic groups was similar to one another.

The sex distribution was equal, with 9 females and 8 males. Sex preponderance was present in the Chinese, where females outnumbered males by 5 to 2. This was not present in Malays nor Indians. The ethnic group distribution showed equal proportions of Malays, Chinese and Indians, with 5, 7 and 5 respectively.

The occupation of the patients showed a wide range. All were literate and almost all had attended secondary school. In socioeconomic status the middle and lower classes were predominant, with a lack of the upper class and the self-employed.

The age of onset of disease ranged from 5 years to 56 years, with a mean and median of 28 years. Each of the decades was represented, but in most patients the disease began between the ages of 10 years and 40 years. Females had a younger onset than males: the mean age was 21 years versus 35 years. This was reflected in each of the 3 ethnic groups. However the age of onset in each of the 3 ethnic groups was similar to one another. The length of disease ranged from 4 months to 30 years, with a mean of 6 years and a median of 3 years.

Precipitating factors for migraine attacks were present in 13 patients; in the remaining 4 patients there was no identifiable precipitating factor. Details are shown in Table II. Among the 13 patients, the majority had more than one precipitant, and one patient had as many as 6 precipitants.

Relieving factors were present in 14 patients; in the remaining 3 patients there was no identifiable relieving factor. Details are shown in Table III.

---

C.S. Kam

M.B.B.S., M.R.C.P. (U.K.)

Lecturer,

Department of Medicine,  
Universiti Kebangsaan Malaysia,  
Kuala Lumpur.

---

Table I  
Data from 17 migraineurs

Age at presentation [years]	Sex	Ethnic group	Occupation	Age of onset of disease [years]	Length of disease [years]	Precipitating factors	Relieving factors	Family history	Source of referral
16	Female	Indian	Salesperson	13	Yes	3	Yes	None	Specialist
17	Male	Indian	Student	16	Yes	1/2	Yes	None	G.P.
17	Female	Malay	Student	16	Yes	1	Yes	None	G.P.
19	Female	Chinese	Student	5	Yes	14	Yes	Yes	Specialist
23	Female	Indian	Nurse	17	Yes	6	Yes	None	G.P.
28	Female	Malay	Clerk	28	None	1/4	None	None	Specialist
32	Female	Chinese	Teacher	31	Yes	1	Yes	None	Specialist
32	Male	Malay	Labourer	30	None	2	None	None	G.P.
32	Male	Malay	Technician	24	Yes	8	Yes	Yes	G.P.
34	Female	Chinese	Housewife	32	Yes	2	Yes	None	Self
34	Female	Chinese	Secretary	19	Yes	15	Yes	Yes	Self
37	Female	Chinese	Nurse	30	Yes	7	Yes	Yes	Self
40	Male	Chinese	Clerk	37	Yes	3	Yes	Yes	Specialist
44	Male	Malay	Technician	43	Yes	1	Yes	None	Self
57	Male	Indian	Clerk	56	Yes	1/4	None	None	G.P.
57	Male	Indian	Priest	27	None	30	Yes	None	Self
58	Male	Chinese	Clerk	51	None	7	Yes	None	Specialist

**TABLE II**

**Precipitating factors for migraine attacks in 13 patients**

Precipitating factor	Number of patients
Hot weather, hot afternoon	6
After work, after school, fatigue	4
Premenstrual	3
Menstruation	3
Reading, studying	3
Worry	2
Hunger	2
Crowds	1
Lack of sleep	1
Rainy weather	1
Tea	1

**TABLE III**

**Relieving factors for migraine attacks in 14 patients**

Relieving factor	Number of patients
Paracetamol	9
Ergotamine	3
Other analgesics	4
Vomiting	3
Rest	2
Sleep	1

Among the 14 patients, half of them had more than one factor. Paracetamol was the most common self-prescribed analgesic that was found useful, although it was found to be of no benefit in 2 other patients. Ergotamine was also useful; patients obtained it from their affected relatives. Among other analgesics, one patient obtained benefit from medicated adhesive, the so-called Japanese plaster.

A family history of migraine was found in 5 patients, in some of whom more than one family

member was affected. The relative most affected was mother (3 patients), sister (3 patients), father (1 patient) and brother (1 patient). Of the remaining 12 patients, one had a family history of non-migrainous headache, one had a family history of epilepsy, and another had a family history of fatal brain tumour.

The source of referral of the 17 patients showed equal proportions originating from general practitioners, specialists and self-referrals. The specialist source was most commonly ophthalmologists.

### DISCUSSION

This small, retrospective and uncontrolled study is the first report of migraine from Malaysia. Migraine was noted since two thousand years ago (Hude, 1923). It is a common disease: prevalence is generally accepted to be between 5 and 10% (Friedman and Merritt, 1962), although studies show a range between 1% (Brewis *et al.*, 1966) and 60% (Allan, 1928).

The diagnostic criterion of migraine used for this study was that of Vahlquist (1955), because it was very reliable (Ekbom, 1976). It differed from criteria used by others (Friedman *et al.*, 1962; Waters and O'Connor, 1975; Deubner, 1977; Thrush, 1978). The age at presentation was similar to that of Medina *et al.* (1976). It was fairly representative of the overall non-pediatric population who attended clinics at the General Hospital, Kuala Lumpur.

In contradistinction, the age of onset of disease ranged from 5 years to 56 years, with a mean and median of 28 years, and with most patients falling between the ages of 10 years and 40 years. This was consistent with the findings of Friedman (1978) that migraine might begin at any age although frequently at adolescence, and of Green (1977) that the average age of onset was 19 years; the difference between these 2 studies on the one hand, and this Malaysian paper on the other hand, was accountable by the absence of pediatric patients in the latter. Studies on prevalence had shown that, although migraine has been diagnosed as early as 2 years of age (Liveing, 1873), it was infrequent before the age of 7 years (Sillanpaa, 1976); prevalence increased

slowly from age 7 until puberty, when it increased at a faster rate (Dalsgaard-Nielson *et al.*, 1970), peaked in the third and fourth decades, and declined in later years (Waters, 1970).

The age of onset in females was younger than in males; this difference persisted in each of the 3 ethnic groups. This contrasted with the findings of Green (1977) that there was no difference in the age of onset between the sexes.

The length of disease showed a wide range, where half of the patients had a headache history of at least 3 years, and where several patients had a headache history of less than 1 year. This contrasted with the study of Ekbohm *et al.* (1978) where half of the patients had a headache history of at least 6 years and where none had a history of less than 1 year.

The overall sex distribution was equal; female sex preponderance was present only in the Chinese ethnic group, but not in the Malays or Indians. This was comparable with other studies (Bille, 1962; Deubner, 1977; Green, 1977) which showed that sex distribution was equal up to the age of 11 years, but thereafter females outnumbered males by 3 to 2.

The ethnic group distribution was representative of the overall population who attended clinics at the General Hospital, Kuala Lumpur. However there was overrepresentation of Indians, if compared to the population of Kuala Lumpur city or to the population of the country, where Indians constituted only 10%. The reason was unclear. Firstly it was believed that Indians had a low threshold to pain. Secondly it was known that they generally earned a lower income, which might lead them to seek treatment at government clinics rather than the alternative, and more expensive, private clinics.

The occupation of the patients tended to be in the middle and lower socioeconomic classes. This contrasted with current thought that migraine equally affected all social classes (Friedman, 1978; Deubner, 1977); in marked contrast with earlier views (Wilson, 1940), now disproved (Waters, 1971; Waters, 1970), that migraine was a disease of the upper social class. This Malaysian finding was surprising. The reason was uncertain. Firstly the existence of the author's

clinic might not be widely known, since it was in its infancy when this study was conducted. Secondly there was another, longer-established, neurology clinic at the same premises. Thirdly its situation in a government hospital had a tendency to be less attractive to the upper class. It was highly unlikely that migraine in Malaysians was not a disease of the upper class (personal communication).

Precipitating factors were identifiable in most patients, the majority of whom had multiple factors. The wide range of precipitating factors found here, and their relative frequencies, was similar to the findings of Thrush (1978), Friedman (1978), Bille *et al.* (1977) and Pearce (1971). Of note, hot weather was common in this Malaysian study whereas inclement weather was common in the Caucasian studies: the common denominator was unpleasant weather. Food items were uncommon in this Malaysian study whereas in Caucasians they were common, the culprits being alcohol, wine, cheese, chocolate and monosodium glutamate. This last item was widely used in Malaysian cooking without apparent adverse effect on migraineurs. Also absent in Malaysians was weekend migraine.

Relieving factors were identifiable in most patients, the relief being only partial or temporary. The range of factors was consistent with the findings of Bille *et al.* (1977) and Ekbohm *et al.* (1978). Paracetamol was the commonest self-prescribed analgesic that was found useful, reflecting its pre-eminence over aspirin as a layman's analgesic. 20% of the patients had prior experience with ergotamine, which was a similar percentage obtained by Ekbohm *et al.* (1978).

A family history of migraine was found in 30% of the patients. This contrasted with the figure of 60% to 75% found by others (Ekbohm *et al.*, 1978; Green, 1977; Friedman and Merritt, 1962). However Dalsgaard-Nielson (1965) obtained a range of 14% to 90%. The reason for such wide variation was that in the usual situation the diagnosis of migraine in a relative was usually made second or third hand, and was of uncertain reliability; also the prevalence of migraine was such that a diligent search through most families was likely to disclose a case (Deubner, 1977). Of the relatives involved, the most common by far was mother, followed in decreasing order by

father, sister, brother, daughter, son and grandparent. (Green, 1977; Ekbom *et al.*, 1978).

The source of referral reflected the general pattern encountered by a specialist practice in a government hospital. Ekbom *et al.* (1978) and Waters and O'Connor (1975) found that only half of all migraineurs sought medical advice for their headache.

## SUMMARY

This is a report of migraine from Malaysia. 17 migraineurs are studied with respect to age, sex, ethnic group, occupation, age of onset, length of disease, precipitating factors, relieving factors and family history. Similarities and differences between Malaysians and Caucasians are discussed.

## REFERENCES

- Allan, W. (1928) The inheritance of migraine. **Arch. Intern. Med.** 42 590-599.
- Bille, B. (1962) Migraine in school children. **Acta Paediat. Scand.** 51 Suppl. 136, 1-151.
- Bille, B., Ludvigsson, J., Sanner, G. (1977) Prophylaxis of migraine in children. **Headache** 17 61-63.
- Brewis, M., Poskanzer, D.C., Rolland, C., Miller H. (1966) Neurological disease in an English city. **Acta Neurol. Scand.** 42 Suppl. 24, 1-89.
- Dalsgaard-Nielson, T. (1965) Migraine and heredity. **Acta Neurol. Scand.** 41 287-300.
- Dalsgaard-Nielson, T., Enberg-Pedersen, H., Holm, H.E. (1970) Clinical and statistical investigations of the epidemiology of migraine. **Dan. Med. Bull.** 17 138-148.
- Deubner, D.C. (1977) An epidemiologic study of migraine and headache in 10-20 year olds. **Headache** 17 173-180.
- Ekbom, K. (1976) Ett frageformular vid diagnos av kronisk huvudvark. **Forskning och Praktik [Sandoz]** 8 113-120.
- Ekbom, K., Ahlborg, B., Schele, R. (1978) Prevalence of migraine and cluster headache in Swedish men of 18. **Headache** 18 9-19.
- Friedman, A.P., Merritt, H.H. (1962) Headache: Diagnosis and Treatment. Philadelphia, F.A. Davies, p. 717.
- Friedman, A.P., *et al.* (1962) Classification of headache. **J.A.M.A.** 179 717-718.
- Friedman, A.P. (1978) Migraine. **Med. Clin. North Am.** 62 481-494.
- Green, J.E. (1977) A survey of migraine in England 1975-1976. **Headache** 17 67-68.
- Hude (1923) *Corpus Medicorum Graecorum*. Leipzig, Teubner, Vol. 3, p.37, and Vol. 7, p 149.
- Liveing, E. (1873) On Megrin, Sick Headache and Some Allied Disorders. London, J. & A. Churchill.
- Medina, J.L., Diamond, S., Franklin, M.A. (1976) Biofeedback therapy for migraine. **Headache** 16 115-118.
- Pearce, J. (1971) General review, some etiological factors in migraine. In Cummings, J.N. (editor) *Background to Migraine*. London, Heinemann Books, p.1-7.
- Sillanpaa, M. (1976) Prevalence of migraine and other headache in Finnish children starting school. **Headache** 15 288-290.
- Thrush, D. (1978) Treatment of migraine. **Brit. Med. J.** 1 1004-1005.
- Vahlquist, B. (1955) Migraine in children. **Int. Arch. Allerg.** 7 348-355.
- Waters, W.E. (1970) Community studies of the prevalence of headache. **Headache** 9 178-186.
- Waters, W.E. (1971) Migraine: intelligence, social class and familial prevalence. **Brit. Med. J.** 2 77-80.
- Waters, W.E., O'Connor, P.J. (1975) Prevalence of migraine. **J. Neurol. Neurosurg. Psychiat.** 38 613-616.
- Wislon, S.A.K. (1940) *Neurology*. London, Arnold.