MIGRAINE: EPIDEMIOLOGICAL ASPECTS OF 17 MALAYSIAN PATIENTS.

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 preponderant, 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.
| Age | Ethnic | Sex | Occupation | Referral Source | Age of onset | Relieving Factors | Precipitating Factors | Length of Disease | Age of onset | Occupation | Referral Source | Sex | Age of onset | Relieving Factors | Precipitating Factors | Length of Disease | Age of onset | Occupation | Referral Source | Sex | Age of onset | Relieving Factors | Precipitating Factors | Length of Disease | Age of onset | Occupation | Referral Source | Sex | Age of onset |
|-----|--------|-----|------------|----------------|---------------|-----------------|---------------------|---------------------|---------------|-------------|----------------|----------------|----------------|----------------|---------------------|---------------------|---------------------|---------------|-------------|----------------|----------------|----------------|---------------------|---------------------|---------------------|---------------|-------------|----------------|----------------|----------------|
| 16  | Female | Indian| Salesperson| Specialist    | Yes           | Yes             | None                | 3                   | None         | 31          | Clerk         | Specialist    | Male           | 37             | Yes                    | 2                   | None                | 112             | None         | None         | Self          | Male           | 8                |
| 17  | Male   | Indian| Student    | G.P.          | Yes           | Yes             | None                | 1/2                 | Yes           | 30          | Clerk         | G.P.          | Male           | 37             | Yes                    | 6                   | Yes                 | 13              | Yes           | None         | Self          | Male           | 57               |
| 17  | Female | Malay | Student    | G.P.          | Yes           | Yes             | None                | 1                   | Yes           | 30          | Nurse         | G.P.          | Female         | 37             | Yes                    | 2                   | Yes                 | 13              | Yes           | None         | Self          | Male           | 44               |
| 19  | Female | Chinese| Student    | Specialist    | Yes           | Yes             | Specialist          | 3                   | Yes           | 14          | Teacher       | Specialist    | Male           | 32             | Yes                    | 6                   | Yes                 | 16              | Yes           | None         | Self          | Male           | 40               |
| 23  | Female | Indian| Nurse      | G.P.          | Yes           | Yes             | None                | 2                   | None         | 10          | Student       | G.P.          | Female         | 24             | Yes                    | 2                   | Yes                 | 21              | Yes           | None         | Self          | Male           | 44               |
| 28  | Female | Malay | Clerk      | Specialist    | None          | Yes             | None                | 1                   | Yes           | 1           | Labourer     | Specialist    | Female         | 32             | Yes                    | 3                   | Yes                 | 23              | Yes           | None         | Self          | Male           | 44               |
| 32  | Female | Chinese| Teacher    | Specialist    | Yes           | Yes             | None                | 2                   | None         | 3           | Teacher       | Specialist    | Female         | 32             | Yes                    | 3                   | Yes                 | 23              | Yes           | None         | Self          | Male           | 44               |
| 32  | Male   | Malay | Labourer   | G.P.          | None          | Yes             | None                | 1                   | Yes           | 1           | Teacher       | G.P.          | Male           | 32             | Yes                    | 3                   | Yes                 | 23              | Yes           | None         | Self          | Male           | 44               |
| 34  | Female | Chinese| Housewife  | Specialist    | Yes           | Yes             | None                | 2                   | None         | 3           | Teacher       | Specialist    | Female         | 32             | Yes                    | 3                   | Yes                 | 23              | Yes           | None         | Self          | Male           | 44               |
| 34  | Female | Chinese| Secretary  | Self          | Yes           | Yes             | None                | 3                   | None         | 0           | Specialist    | Self          | Female         | 28             | Yes                    | 2                   | Yes                 | 16              | Yes           | None         | Self          | Male           | 44               |
| 37  | Female | Chinese| Nurse      | Self          | Yes           | Yes             | None                | 2                   | None         | 3           | Specialist    | Self          | Female         | 32             | Yes                    | 3                   | Yes                 | 23              | Yes           | None         | Self          | Male           | 44               |
| 40  | Male   | Chinese| Clerk      | Self          | None          | Yes             | None                | 1                   | Yes           | 3           | Teacher       | Self          | Female         | 32             | Yes                    | 3                   | Yes                 | 23              | Yes           | None         | Self          | Male           | 44               |
| 57  | Male   | Indian | Priest     | G.P.          | None          | Yes             | None                | 112                 | None         | 10          | Teacher       | G.P.          | Male           | 25             | Yes                    | 1                   | Yes                 | 16              | Yes           | None         | Self          | Male           | 44               |
| 58  | Male   | Chinese| Clerk      | Self          | None          | Yes             | None                | 7                   | None         | 10          | Specialist    | Self          | Female         | 32             | Yes                    | 2                   | Yes                 | 16              | Yes           | None         | Self          | Male           | 44               |

Table I
TABLE II

Precipitating factors for migraine attacks in 13 patients

<table>
<thead>
<tr>
<th>Precipitating factor</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot weather, hot afternoon</td>
<td>6</td>
</tr>
<tr>
<td>After work, after school, fatigue</td>
<td>4</td>
</tr>
<tr>
<td>Premenstrual</td>
<td>3</td>
</tr>
<tr>
<td>Menstruation</td>
<td>3</td>
</tr>
<tr>
<td>Reading, studying</td>
<td>3</td>
</tr>
<tr>
<td>Worry</td>
<td>2</td>
</tr>
<tr>
<td>Hunger</td>
<td>2</td>
</tr>
<tr>
<td>Crowds</td>
<td>1</td>
</tr>
<tr>
<td>Lack of sleep</td>
<td>1</td>
</tr>
<tr>
<td>Rainy weather</td>
<td>1</td>
</tr>
<tr>
<td>Tea</td>
<td>1</td>
</tr>
</tbody>
</table>

TABLE III

Relieving factors for migraine attacks in 14 patients

<table>
<thead>
<tr>
<th>Relieving factor</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paracetamol</td>
<td>9</td>
</tr>
<tr>
<td>Ergotamine</td>
<td>3</td>
</tr>
<tr>
<td>Other analgesics</td>
<td>4</td>
</tr>
<tr>
<td>Vomiting</td>
<td>3</td>
</tr>
<tr>
<td>Rest</td>
<td>2</td>
</tr>
<tr>
<td>Sleep</td>
<td>1</td>
</tr>
</tbody>
</table>

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 Ekbom 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 outnum-
bered males by 3 to 2.

The ethnic group distribution was representa-
tive of the overall population who attended clinics
at the General Hospital, Kuala Lumpur. However
there was overrepresentation of Indians, if com-
pared 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
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,
nurology clinic at the same premises. Thirdly its
situation in a government hospital had a tenden-
cy 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), Fried-
man (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 tempo-
rary. The range of factors was consistent with the
findings of Bille et al. (1977) and Ekbom 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 Ekbom 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 (Ekbom 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


