Beware the patient with a headache in the accident and emergency department

D. I. FODDEN, R. C. PEATFIELD* & P. L. MILSOM

*Departments of Accident and Emergency Medicine and *Neurology, St James's University Hospital, Leeds, England*

SUMMARY

We have reviewed the 130 patients presenting to an accident and emergency (A & E) department with a headache, followed up for 2 years. These are infrequent attenders but we have found that there is a high incidence of serious neurological pathology (16%) in this group of patients. We suggest that patients presenting to the A & E department with headache should be thoroughly examined and investigated and in the absence of a definite benign diagnosis should at least be admitted for a period of observation.

INTRODUCTION

Patients presenting to emergency rooms and other primary health care centres with a headache account for between 1.3% and 2.5% of all attendances (Dickman & Masten, 1979; Dhopes *et al.*, 1979; Leicht, 1980; Becker *et al.*, 1987). When presenting to A & E departments, these patients are often looked upon as inappropriate attenders and may not get the attention they deserve. In other published series of patients with headaches from general practice, neurology or headache clinics and A & E departments, the incidence of structural pathology is very low, ranging between 0.3% and 5% (Dhopes *et al.*, 1979; Jerrett, 1979; Olesen *et al.*, 1979; Leicht, 1980; Joseph *et al.*, 1985; Bass *et al.*, 1986; Peatfield, 1986; Perkin, 1986). Our experience has suggested that patients presenting to the A & E department with a headache had a much higher incidence of serious pathology. This study was conducted in order to determine the number of patients presenting with this symptom and the prevalence of serious neurological pathology in this group.

Correspondence: Mr D. I. Fodden, Registrar in Accident and Emergency Medicine, St James's University Hospital, Leeds LS9 7TF, England.

METHODS

We carried out a retrospective analysis of the 35 709 patients who presented to the A & E Department at St James's University Hospital, Leeds, over a consecutive 6-month period from 1 January 1985, followed up for 2 years. The patient record ledger was examined and details were taken from the records of those patients who had presented complaining primarily of headache. A note was also made of whether the patient was referred by the general practitioner or self-referred. If a patient was admitted, the hospital records were examined in order to determine the final diagnosis. The general practitioners of patients who were discharged from the department were contacted to see if our diagnosis had needed modification or if any other significant pathology had arisen since initial presentation.

RESULTS

We found 130 patients who presented to the department with a headache. This was 0.36% of all new patients, a considerably lower proportion than in other published series.

It was not possible to secure full follow-up notes of 24 patients because they had moved out of the area and the new general practitioner could not be traced or the notes could not be traced. We therefore have full records for 106 patients of which 40 (38%) were referred by their own general practitioner and 38 (36%) were male. The average age was 35.8 years, Table 1 shows the age/sex distribution and Table 2 shows the final diagnoses. The 24 patients for whom we have no follow-up data only differed from our study group in that 13 (54%) were male (Table 3).

The largest group of patients had non-specific headache (26%) whilst migraine, including cluster headaches, accounted for 19%, and 16% were related to general medical problems. A further 13% were thought to have a tension or psychogenic headache and 10% were related to generalized febrile illnesses.

Table 1 Age/sex details of our patients

Age (years)	M	F	Total
0-10	2	0	2
11-20	9	11	20
21-30	8	25	33
31-40	8	9	17
41-50	5	6	11
51-60	2	6	8
61-70	1	4	5
71-80	3	5	8
81-90	0	2	2
Total	38	68	106

Table 2 Details of final diagnoses

			Number
Non-specific			28
Migraine/cluster	(20)	Migraine	19
		Cluster	1
General medical	(17)	Hypertension	4
		Referred from cervical spine	3
		Scleritis	2
		Dental	2
		Eye strain	1
		Sinusitis	1
		Temporal arteritis	1
		Urinary tract infection	1
		Hyperthyroidism	1
		Alcohol ingestion	1
Psychogenic			14
Febrile illness	(10)	Viraemia	3
		Chickenpox	2
		Tonsillitis	2
		Influenza	2
		Mumps	1
Intracranial bleed	(9)	Subarachnoid	5
		Intracerebral	3
		Subdural	1
Raised intracranial pressure	(6)	Glioma	3
		Angioma	2
		Benign intracranial hypertension	1
Meningitis			2
Total			106

Seventeen patients, all of whom were aged over 16 years, had serious neurological pathology, including intracranial haemorrhage (mean age 55.1 years), raised intracranial pressure (mean age 40.0 years) and meningitis (mean age 32.5 years). Of these 17 patients, three had no abnormal physical signs but were admitted on the strength of the history alone and a total of nine had been referred by their general practitioner and eight self-referred.

The departmental diagnosis required modification after in-patient investigation or was disputed by the general practitioner in 20% but no patient in this series, who was ultimately found to have had a serious condition, was discharged from the department (Tables 4 & 5).

Table 3 Provisional diagnoses of those patients for whom full follow up data was not available

Age	Sex	Provisional diagnosis
Unknown	F	Inebriate
11	M	Epilepsy
14	F	Migraine
17	F	Nil
21	F	Migraine
22	F	Nil
22	M	Nil
22	M	Nil
23	F	Tension
24	M	Migraine
29	M	Nil
31	M	Nil
33	M	Nil
33	M	Migraine
34	M	Nil
36	F	Space occupying lesion
41	F	Migraine
49	F	Hypertension
50	F	Migraine
52	M	Thrombophlebitis
62	M	Migraine
69	M	Cerebrovascular incident
72	M	Nil
71	F	Psychogenic

DISCUSSION

Headache is a common symptom and accounts for between 1.3% and 2.5% of all primary health care consultations (Dhopesh *et al.*, 1979; Dickman & Masten, 1979; Leicht, 1980; Becker *et al.*, 1987). The frequency of serious neurological pathology in patients with headache is generally thought to be very low. Our experience suggests that

Table 4 Details of those patients who were admitted and the diagnoses required modification

Age	Sex	Provisional diagnosis	Final diagnosis
18	M	Subarachnoid haemorrhage	Non-specific
23	M	Migraine	Nil further
27	F	Hypertension	Migraine
44	M	Viraemia	Hypertension
59	F	Space occupying lesion	Non-specific
66	F	Migraine	Non-specific
73	M	Pneumonia	Urinary tract infection

Table 5 Details of those patients who were not admitted and the diagnoses required modification

Age	Sex	Provisional diagnosis	Final diagnosis
10	M	Viraemia	Nil further
13	F	Migraine	Nil further
16	M	Migraine	Mumps
19	F	Inhalation of paint fumes	Migraine
22	F	Migraine	Hypertension
22	M	Migraine	Sinusitis
22	F	Viraemia	Hyperthyroidism
23	F	Tension	Viraemia
24	F	Migraine	Nil further
27	F	Sinusitis	Nil further
28	F	Psychogenic	Nil further
29	F	Migraine	Dental
29	F	Tension	Eye strain
30	F	Hypertension	Non-specific
30	F	Migraine	Non-specific
40	F	Migraine	Psychogenic
42	F	Migraine	Hypertension
42	M	Tension	Migraine
48	F	Tendinitis	Nil further
51	F	Tension	Cervical spondylosis
72	F	Neuralgia	Nil further

many doctors feel that it is an inappropriate use of an A & E department for patients to attend with a headache. Although headaches are extremely common, it is very unusual for patients to present to an A & E department with this symptom: in our study there were only 130 patients out of a total of 35 709 in the 6 months of the study, overall 0.36% of all departmental attendances.

Despite the low attendance rate there does appear to be a high incidence of serious neurological pathology in this group of patients. We suggest that the patients attended the A & E department because they felt that their headache was unusual, for example more severe or longer-lasting than previously experienced. A further group attended for immediate investigation having been referred by their general practitioner on the basis of the history or physical findings.

We feel, therefore, that all such patients are treated with a great deal of respect and that all new doctors in an A & E department should be warned not to treat these patients as inappropriate attenders. We would further suggest that if a patient attends the A & E department with a headache and a definite benign diagnosis cannot be reached, the history is suggestive of serious neurological pathology or the patient exhibits abnormal neurological physical signs then he deserves admission for a period of observation and possibly further investigation. This is not likely to become a burden on the hospital because the number of these patients is relatively small.

ACKNOWLEDGEMENTS

We are grateful to Dr I. D. Adams and Dr R. N. Illingworth who gave us access to the patient records and also gave advice throughout the study.

REFERENCES

- Bass M. J., McWhinney I. R., Dempsey J. B. et al. (1986) Predictors of outcome in headache patients presenting to family physicians—a one year prospective study. *Headache* **26**, 285–94.
- Becker L. A., Iverson D. C., Reed F. M., Calonge N., Miller R. S. & Freeman W. L. (1987) A study of headache in North American primary care. *Journal of the Royal College of General Practitioners* **37**, 400–3.
- Dhopes V., Anwar R. & Herring C. (1979) A retrospective assessment of emergency department patients with complaint of headache. *Headache* **19**, 37–42.
- Dickman R. L. & Masten T. (1979) The management of non-traumatic headache in a university hospital emergency room. *Headache* **19**, 391–6.
- Jerrett W. A. (1979) Headaches in general practice. *The Practitioner* **222**, 549–55.
- Joseph R., Cook J. E., Steiner T. J. & Rose F. C. (1985) Intracranial space-occupying lesions in patients attending a migraine clinic. *The Practitioner* **229**, 477–81.
- Leicht M. J. (1980) Non-traumatic headache in the emergency department. *Annals of Emergency Medicine* **9**, 404–9.
- Olesen J., Aebelholt A., Veilis B. (1979) The Copenhagen acute headache clinic: organization, patient material and treatment results. *Headache* **19**, 223–7.
- Peatfield R. C. (1986) *Headache*. Berlin, Springer Verlag.
- Perkin G. D. (1986) *Basic Neurology*. Chichester, Horwood.