

## Personal practice

# Pitfalls in the management of epilepsy

G STORES

*National Centre for Children with Epilepsy and Regional Paediatric EEG Unit, Park Hospital for Children, Oxford*

Recent publications on childhood epilepsy and personal experience at the National Centre for Children with Epilepsy both suggest that the management of children with this disorder remains an area of clinical practice in which special difficulties are encountered. The following remarks are relevant mainly for children of school age. Emergency situations are not considered.

### Differential diagnosis

Different types of attack may be superficially similar and confusion between epileptic and non-epileptic attacks may well occur. It seems that various types of non-epileptic attack continue to be misdiagnosed as epilepsy. In one recent series a quarter of patients referred to an epilepsy clinic had been misdiagnosed in this way.<sup>1</sup> Faints and breathholding attacks, especially those that end with convulsive movements, were often misconstrued as epilepsy, as were aggressive outbursts, sleep disorders, and atypical forms of migraine.

Accurate diagnosis should be possible from a precise description of each attack (from the very first change to full recovery) and from the circumstances in which the attacks occur as the various types of attack have characteristic features.<sup>2</sup> If the true nature of the child's attacks remains obscure, in spite of a precise description, prolonged electroencephalogram (EEG) recordings during attacks can be helpful.<sup>3</sup>

Sometimes the opposite problem is encountered—that is, seizures are not recognised as such and are diagnosed as non-epileptic attacks, usually of a psychological type. This risk is greatest with non-convulsive seizures and is particularly likely to occur if the wide range of seizure types described in the international classification of seizures<sup>4</sup> is not appreciated.

### Seizure type

Seizures are often not accurately classified. All non-

convulsive seizures are sometimes referred to as 'petit mal', but within this broad category there exist very different forms of seizure—notably, absence seizures and complex partial seizures. The similarity of these two seizure types—that is, that both are characterised by fairly brief impairment of consciousness—should not obscure the important differences between them. Absence seizures are usually inherited, do not require radiological investigation, often respond to valproate or ethosuximide (but not carbamazepine), and usually remit spontaneously by early adult life. In contrast, structural cerebral lesions need to be considered in complex partial seizures. These seizures may well be helped by carbamazepine (or perhaps valproate) but often persist, and a proportion will need surgery. Mode of onset and termination and duration of the seizure are usually very different in these two types of attack.<sup>5</sup> Absence seizures begin and end abruptly and last five to 15 seconds; complex partial seizures often begin with an aura and last 30 seconds to two minutes, with gradual return to normality. Automatisms are seen in both types of seizure but are less complicated in the absence type.

The way in which a generalised tonic-clonic seizure begins may be difficult to determine, especially during the night, but can contain important information. Generalised convulsions with initial subjective or objective changes to suggest a partial (focal) onset need to be investigated and treated as partial seizures. Generally, they have a less good prognosis than convulsions that are generalised from the outset. Orofacial symptoms and signs should be sought at the onset of the seizure, especially if convulsions occur during sleep in an otherwise neurologically intact child, to identify benign centrotemporal epilepsy of childhood,<sup>6</sup> which, unlike other partial epilepsies, will almost certainly remit spontaneously by puberty.

### Underlying cause

The cause of a child's epilepsy may not be obvious

but needs to be carefully considered. Otherwise, opportunities may be missed to provide much needed explanations to parents (who might blame themselves or worry needlessly about possible sinister causes) or to provide genetic counselling in those conditions for which this is appropriate. Computed tomography is required if there is clinical or EEG evidence of a localised abnormality, but a negative finding does not exclude a structural brain lesion and repeated high quality scanning at intervals may well be necessary.

### EEG investigations

EEG continues to be a potential source of confusion, mainly because of inadequate provision of services or misrepresentation of the findings. EEG studies should be designed to answer specific clinical questions, and interpretation of the findings needs to be meaningful and relevant.<sup>7</sup> A comprehensive EEG service should be able to answer such questions as the following:

What is the nature of the child's attacks? EEG recordings during attacks are necessary to avoid misleading inferences from interattack EEG abnormalities, which may well be no more than non-specific unusual features without pathological importance.

What type of seizure does the child have?

Is there a clue to underlying cause?

Are precipitating factors identifiable, or other patterns of seizure occurrence?

Is the child having subtle seizures clinically difficult to detect?

### Anti-epileptic drug treatment

Standards of practice in the use of antiepileptic drugs have improved in recent years, perhaps especially in paediatrics, but difficulties in their use are often experienced. When to start drugs can be a difficult decision.<sup>8</sup> It is generally inappropriate to introduce treatment with drugs after a single seizure or even after several mild seizures have occurred. The available range of antiepileptic drugs may be confusing, but certain basic principles can help.<sup>9</sup> Treatment with a single drug is preferable as combined treatment is usually unnecessarily complicated and may produce unwelcome interactions or adverse additive effects. Valproate or carbamazepine are effective in most cases, but choice of drug depends on seizure type. Both these drugs are broad range, but carbamazepine is ineffective in primary generalised seizures other than generalised tonic-clonic seizures. The place of valproate in the

partial epilepsies is being investigated at the present time.

When to withdraw treatment can be a difficult issue, especially when there is particular concern about relapse (especially in teenagers wanting a driving licence), but generally it is appropriate to withdraw treatment cautiously if the child has been free of seizures for two years. EEG is not a good guide to time of withdrawal. A normal record gives no guarantee that relapse will not occur. Conversely, persistent EEG abnormalities do not necessarily predict relapse. The decision is essentially a clinical matter.

Seizures may persist in spite of drug treatment.<sup>10</sup> In this situation certain possibilities should be considered. These include: mismatch between seizure type and drug; too high or too low dosage; non-compliance (this is common especially where confidence has been lost); progressive underlying disease (uncommon); and emotional or other environmental precipitants of seizures, which are commonplace. Epilepsy in the severely retarded is generally difficult to control because of the serious underlying brain disorder.

### Prognosis

Parents naturally almost always ask if their child will grow out of his seizures. This can be a difficult question to answer, but the clue lies in establishing as far as possible the child's precise type of epilepsy and possible associated disorder. Generalisations about prognosis are unhelpful in such a mixed group of disorders as the epilepsies.

Sometimes it is possible to be very reassuring about the future. Almost certainly benign centrottemporal epilepsy of childhood (a common form of childhood epilepsy) will stop by puberty. Eighty per cent or more of absence seizures and a similar proportion of primary generalised tonic-clonic seizures may well remit by early adult life. A child who is neurologically intact apart from the seizure disorder has a very good chance of growing out of his epilepsy by early adult life or thereabouts. In contrast, epilepsies associated with mental retardation carry a poor prognosis for seizure control, although remission is not impossible. Partial epilepsies hold an intermediate position. Their prognosis is determined largely by the underlying cause.

### Behavioural aspects

Often the relation between epilepsy and behaviour is misunderstood. Parents, teachers, and doctors often fear that behavioural disturbance or poor

intellectual development is likely. This is not so. The behaviour of most people with epilepsy is no different from that of anyone else. There is no justification for the notion of 'the epileptic personality' as an inevitable consequence of having seizures.<sup>11</sup> In particular, contrary to popular and professional belief, the behaviour of people with epilepsy is not unpredictably explosive; in fact seizures very rarely take the form of aggressive outbursts.<sup>12</sup>

The typical psychological problems of people with epilepsy are depression and anxiety caused by unhelpful and uninformed social attitudes. Treatment with antiepileptic drugs, especially barbiturates, may also cause depression and irritability. In other words, behavioural or emotional upset is not inevitable but can be prevented or treated. Difficult behaviour in children with epilepsy is almost always the result of mishandling at home or at school, including overrestriction or overpermissiveness. The same measures should be applied as in other children. In those children with epilepsy at special risk of educational underachievement it is also important to adopt a positive approach based on careful assessment of the various psychological and physical factors that may be relevant.<sup>13</sup>

### Comprehensive care

It is easy to become preoccupied with seizure control by means of drugs to the exclusion of other important aspects of the child's situation.

A comprehensive view needs to be taken of any child with epilepsy, especially if seizures have persisted for some time. Attitudes and expectations of parents, teachers, other children, and the child himself have to be assessed as they may offer serious barriers to academic and social development as well as seizure control. Where particular problems have developed special help may be needed and this is best provided in special epilepsy clinics or, in particularly complicated cases, epilepsy centres where the efforts of physicians, psychologists, social workers, and others can be coordinated. It is impossible to provide such help without much time and effort being available. A busy general outpatient clinic cannot meet these complicated needs.

### Communication problems

A serious pitfall in the care of children with epilepsy seems to be poor communication. Evidence from various sources, such as the study by Holdsworth and Whitmore,<sup>14</sup> indicates that enormous communication problems often exist between the various

people involved in the care of the child with epilepsy. Only the closest cooperation and free exchange of information between general practitioner, hospital doctors, parents, teachers, and others will avoid the confusion and misunderstanding of what the child requires. Standardisation of terminology would help to some extent. There is much to be said for abandoning the ambiguous terms such as 'grand mal', 'petit mal', 'major', and 'minor' attacks in favour of the clinically more precise terms recommended in the international classification of seizures<sup>4</sup> mentioned earlier. In addition, however, respective roles need to be defined and efforts coordinated. This seems to be difficult to achieve, especially in some parts of the country where there are less resources or interest than elsewhere but the effort is well worth while.

### References

- 1 Jeavons PM. Non-epileptic attacks in childhood. In: Rose FC, ed. *Research progress in epilepsy*. London: Pitman, 1983: 224-30.
- 2 Pedley TA. Differential diagnosis of episodic symptoms. *Epilepsia* 1983;**24**(Suppl 1):531-44.
- 3 Stores G. Clinical and EEG evaluation of seizures and seizure-like disorders. *J Am Acad Child Psychiatry* 1985;**24**:10-6.
- 4 Dreifuss FE, Bancaud J, Henriksen O, et al. Proposal for revised clinical and electroencephalographic classification of epileptic seizures. *Epilepsia* 1981;**22**:489-501.
- 5 Penry JK, Porter R, Dreifuss FE. Simultaneous recording of absence seizures with video tape and electroencephalography. *Brain* 1975;**98**:213-34.
- 6 Lerman P. Benign partial epilepsy with centro-temporal spikes. In: Roger J, Dravet C, Bureau M, et al, eds. *Epileptic syndromes in infancy, childhood and adolescence*. London: Libbey, 1985:150-8.
- 7 Stores G. Choice of electroencephalographic investigation. *Arch Dis Child* 1985;**60**:3-5.
- 8 Robinson R. When to start and stop anticonvulsants. In: Meadow SR, ed. *Recent advances in paediatrics*. Edinburgh: Churchill Livingstone, 1984:155-74.
- 9 Jeavons PM. Choice of drug treatment in epilepsy. *Practitioner* 1977;**219**:542-56.
- 10 Gordon N. Intractable epilepsy in childhood. *Dev Med Child Neurol* 1980;**22**:97-104.
- 11 Tizard B. The personality of epileptics: a discussion of the evidence. *Psychol Bull* 1962;**59**:196-210.
- 12 Treiman DM, Delgado-Escueta AV. Violence and epilepsy; a clinical review. In: Pedley TA, Meldrum BS, eds. *Recent advances in epilepsy I*. Edinburgh: Churchill Livingstone, 1983:179-209.
- 13 Stores G. Problems of learning and behaviour in children with epilepsy. In: Reynolds EH, Trimble MR, eds. *Epilepsy and psychiatry*. Edinburgh: Churchill Livingstone, 1981:33-47.
- 14 Holdsworth L, Whitmore K. A study of children with epilepsy attending ordinary schools II: Information and attitudes held by teachers. *Dev Med Child Neurol* 1974;**16**:759-65.

Correspondence to Dr G Stores, National Centre for Children with Epilepsy and Regional Paediatric EEG Unit, Park Hospital for Children, Oxford OX3 7LQ, England.