Video EEG outcome on children referred following a single unprovoked afebrile seizure

AIM
To look at the outcome of the routine video EEG (vEEG) wake and sleep records on children referred following a single unprovoked afebrile seizure.

METHODS
We examined all the vEEGs that were undertaken in a regional paediatric neurophysiology department in Oxford, following a single unprovoked seizure over a 1-year period (2008–2009), several years after National Institute for Health and Clinical Excellence (NICE) guidelines for the management of epilepsy in children became available.

RESULTS
A total of 998 vEEGs were undertaken during the study period. Of these, 128 were following a first afebrile seizure: 119/128 were referred by general paediatricians and the remaining 9 by paediatric neurologists. The mean age group was 6.5 years (range 1 month to 17 years). Thirty-four of 128 children had an underlying neurodevelopmental problem. In 11 children, there was a family history of epilepsy and in 13 a past history of febrile convulsions.

The seizure semiology included generalised tonic clonic seizure (n=50), focal (n=25), atonic (n=4), myoclonic (n=2) and uncertain (n=47).

The vEEG outcomes were normal (n=75), non-epileptic events recorded (n=8) and suggestive of an epilepsy syndrome (n=45). The breakdown of the 45 patients with an epilepsy syndrome was idiopathic generalised epilepsy (n=14), focal epilepsies (n=29) and generalised epilepsy with febrile seizures+ (n=2). The syndromes suggested in the 14 patients with idiopathic generalised epilepsy were juvenile absence epilepsy (n=1), juvenile myoclonic epilepsy (n=1) and idiopathic generalised epilepsy not otherwise specified (n=12). Of the 29 with EEGs suggestive of focal epilepsies, focal idiopathic epilepsy accounted for 25/29 (benign rolandic (n=10), late-onset occipital epilepsy (n=2), early-onset occipital epilepsy (n=2) and others (n=11)) and focal symptomatic epilepsy accounted for 4/29.

CONCLUSION
We are unaware whether a similar study has been done in the UK after NICE guidelines for the management of epilepsy became available. vEEG following a single unprovoked seizure accounted for 12.8% of our total referrals. Our study shows that in a substantial number of children we can obtain a result suggestive of an epileptic syndromic diagnosis even after a single seizure. Although this will not alter the decision to treat, it can be valuable information when counselling the families of these children.

Geetha Anand, Anuruddha Padeniya, Rakesh Jain, Nadeem Hasan, Michael Pike, Sandeep Jayawant, Tony McShane, Zenobia Zaiwalla

1Department of Paediatrics, John Radcliffe Hospital, Oxford, UK
2Department of Paediatric Neurology, John Radcliffe Hospital, Oxford, UK
3Department of Paediatric Neurophysiology, John Radcliffe Hospital, Oxford, UK

Correspondence to Geetha Anand, Department of Paediatrics, John Radcliffe Hospital, Headley Way, Oxford OX3 9DU, UK; anandgeetha97@hotmail.com

Contributors The co-authors mentioned are the only contributors.

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