To the Editors:

An audit of treatment of convulsive status epilepticus

The duration of convulsive status epilepticus (CSE) is the only prognostic factor modifiable with proper management. Longer duration is associated with increased risk of mortality and morbidity [1,2]. Shorter interval between onset and initiation of treatment is important for rapid control [3]. Use of practice guidelines in the emergency setting of a hospital reduces the incidence of CSE. The aim of this study was to compare the present treatment of CSE at the Children's Hospital, Colombo with advanced paediatric life support (APLS) guidelines [4].

All cases of CSE admitted or developed while in hospital were prospectively studied. The sequence of administered antiepileptics was compared with that in APLS guidelines. Drug dose and drug administration irregularities were also noted. Over 6 months, 29 cases of CSE were identified; 9 were acute symptomatic. Other causes were, 4 prolonged febrile convulsions, 4 remote symptomatic, 3 acute on remote symptomatic, 6 idiopathic epilepsy related, 2 unclassified and one cryptogenic epilepsy. The duration was 30-45 min in 11 patients, 45-60 min in 13, and more than 60 min in 5 patients.

The first line of therapy was benzodiazepines or phenobarbitone. Benzodiazepines were diazepam used per rectally (PR) or intravenously (IV), and intravenous midazolam. Five responded to therapy. Phenobarbitone is not recommended in APLS guidelines. Their recommendation is IV/PR diazepam once or IV/PR lorazepam. The second order of therapy in our group was intramuscular (IM) paraldehyde in 10, IV phenobarbitone in 9 and IV midazolam in 4. APLS recommendation is paraldehyde only via the PR route. Next line of therapy in our group was either PR/IV benzodiazepines (60%) and IM paraldehyde (20%) and IV phenobarbitone (20%). APLS recommendation is IV phenytion or IV phenobarbitone if on oral phenytion. No patient received IV phenytoin in spite of its availability. Rapid sequence induction of anaesthesia with thiopentone as the last step could not be offered to any.

Drug dose irregularities mainly involved diazepam (42% of prescriptions) often administering an inadequate dose. Dose irregularities for phenobarbitone were 40%, paraldehyde 33%, and midazolam 16%. Administration irregularities included paraldehyde given intramuscularly instead of rectally, repeated administration of benzodiazepines above the recommendation and administration of diazepam as an infusion.

In spite of the small patient number this study emphasises many shortcomings in relation to the choice, dosage and route of administration of drugs during treatment of CSE at the Lady Ridgeway Hospital, Colombo.

References

1. Eriksson K, Metsaranta P, Huhtala H, Auvinen A, Kuusela AL, Koivikko M. Treatment delay and the risk of prolonged status epilepticus. *Neurology* 2005; **65**: 1316-8.
2. Lowenstein DH, Bleck T, MacDonald RL. It's time to revise the definition of status epilepticus [see comment]. *Epilepsia* 1999; **40**:120-2.
3. Pellock JM, Marmarou A, DeLorenzo R. Time to treatment in prolonged seizure episodes. *Epilepsy and Behaviour* 2004; 5: 192-6.
4. The Advanced Life Support Group. Advanced paediatric life support: the practical approach. 3rd ed. BMJ Publishing group, 2000.

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