

Editorial

Pratibha Singhi

Received: 8 March 2014 / Accepted: 17 July 2014 / Published online: 8 August 2014
© Dr. K C Chaudhuri Foundation 2014

Epilepsy in children is of interest to all pediatricians and to physicians who look after children. It is one of the commonest problems in office practice; keeping abreast of current thinking and management is therefore essential. In recent times, there have been several new developments in the field of childhood epilepsy. An attempt has been made to apprise the reader of these.

After several years of debate among experts, we now have a new revised classification of seizures and epilepsies [1]. Some terminologies and definitions have been modified; whether this will improve the understanding and management of epilepsy will only be evident after a few years of its use. Nevertheless incorporation of the new terminology in daily practice would help in adopting a standardized approach to and discussion on epilepsy and epileptic syndromes in children. Childhood epileptic syndromes are now termed electroclinical syndromes emphasizing the importance of both – the electroencephalographic and clinical characteristics in defining a syndrome. Whereas an indepth understanding of epileptic syndromes may not be possible or even necessary for a general pediatrician, a simplistic approach to these is indeed essential for proper management of childhood epilepsy. A brief review of these electroclinical syndromes with an age-wise approach should be helpful in achieving this [2]. The diagnosis of West syndrome is often missed in early stages and there has been a lack of standardized therapeutic approach. We now have good studies to provide an evidence based management of this otherwise difficult to treat epileptic syndrome [3]. Irrespective of the level of expertise, every physician faces the challenge of

differentiating events that mimic epilepsy from true epilepsy. Repeated reminders are needed to make this distinction [4], and only after that one can proceed with a rational approach to a child with epilepsy [5]. Several newer antiepileptic drugs have been in the market for over two decades now. Their use in children has until recently been dictated by extrapolations from adult studies. Some recent good studies in children have helped to provide evidence based guidelines for use of at least some of newer antiepileptic drugs as monotherapy or add-on therapy for childhood epilepsy [6]. Resistant epilepsy has always been a major concern especially in children with underlying neurological disorders. It is now accepted that the definition of resistance used for adults is not appropriate for children; adverse effects of ongoing epilepsy on the developing brain call for a more liberal definition in children [7]. There has been revival of interest in the ketogenic diet and its various modifications for treatment of pharmaco-resistant epilepsy in children [8] and the current thinking has gone on to suggest its use even as a primary management strategy in certain childhood epileptic syndromes [9].

The development of good surgical programs and encouraging results of epilepsy surgery have widened the net for selection of children for epilepsy surgery. Moreover with the advent of finer neuroimaging techniques the early detection of conditions such as focal cortical dysplasias has helped shift the age of surgery to early infancy. This is of particular importance in childhood where early control of seizures is essential to prevent irreversible adverse effects of ongoing seizures on early child development. Timely referral to appropriate centres is therefore important [10]. Parents are often extremely concerned about the effects of epilepsy on their child's intelligence. There is no unified answer as different epilepsies have different effects on cognition and behavior [11] and only an informed doctor can address this issue properly.

P. Singhi (✉)
Pediatric Neurology and Neurodevelopment Unit, Department of
Pediatrics, Advanced Pediatrics Centre, Post Graduate Institute of
Medical Education and Research, Chandigarh 160012, India
e-mail: doctorpratibhasinghi@gmail.com

Neonatal seizures need a different approach both in terms of etiology and management; a protocol is often helpful [12]. Similarly febrile seizures are peculiar to young children and in spite of the availability of guidelines, these are often mismanaged. An update on this common problem should help clarify the management issues [13].

This supplement is timely and articles included in it have tried to cover many of the important aspects related to childhood epilepsy. It is directed mainly towards the practicing pediatrician to enable an updated and concise review of current practices in childhood epilepsy.

Newer developments are expected in the field of childhood epilepsy. There have been several recent insights into epileptogenesis. The possible role of early life stress in priming the developing brain and increasing its susceptibility to seizures [14] is an area that should be of particular interest to developmental pediatricians. Studies on the role of inflammation in febrile seizures [15] and immune mechanisms in epileptogenesis have helped in identifying novel targets in inflammatory and immune cascades for the development of newer antiepileptic drugs [16]. Ongoing research into the genetics of epilepsy [17] has revealed a wide array of genetic etiologies that not only help in understanding specific types of epilepsies but may form the basis of tailored anti-epileptic therapy. Future research in these fields is likely to dramatically change our understanding and management of epilepsy in children. Hopefully these issues will be discussed in the journal in the near future.

Conflict of Interest None.

Source of Funding None.

References

1. Udani V, Desai N. Proposed international league against epilepsy classification 2010: new insights. 2014. doi:10.1007/s12098-014-1547-8.
2. Singhi P. Childhood electroclinical syndromes: a diagnostic and therapeutic algorithm. 2014. doi:10.1007/s12098-014-1529-x.
3. Sahu JK. Infantile spasms - evidence based medical management. 2014. doi:10.1007/s12098-014-1499-z.
4. Sankhyan N. Non-epileptic paroxysmal events mimicking seizures in children. 2014. doi:10.1007/s12098-014-1531-3.
5. Vishwanathan V. Rational management of epilepsy. 2014. doi:10.1007/s12098-014-1482-8.
6. Passi GR. Newer anti-epileptic drugs: evidence based use. 2014. doi:10.1007/s12098-014-1494-4.
7. Aneja S, Jain P. Refractory epilepsy in children. 2014. doi:10.1007/s12098-014-1533-1.
8. Parakh M, Katewa V. Non-pharmacologic management of epilepsy. 2014. doi:10.1007/s12098-014-1519-z.
9. Wang HS, Lin KL. Ketogenic diet: an early option for epilepsy treatment, instead of a last choice only. *Biomed J.* 2013;36:16–7.
10. Gupta A. Epilepsy surgery in children: why, when and how? 2014. doi:10.1007/s12098-014-1541-1.
11. Gulati S, Yoganathan S, Chakrabarty B. Epilepsy, cognition and behavior. 2014. doi:10.1007/s12098-014-1530-4.
12. Kanhare S. Recent advances in neonatal seizures. 2014. doi:10.1007/s12098-014-1540-2.
13. Mittal R. Recent advances in febrile seizures. 2014. doi:10.1007/s12098-014-1532-2.
14. van Campen JS, Jansen FE, de Graan PN, Braun KP, Joels M. Early life stress in epilepsy: a seizure precipitant and risk factor for epileptogenesis. *Epilepsy Behav.* 2013. doi:10.1016/j.yebeh.2013.09.029.
15. Choy M, Dube CM, Ehrenguber M, Baram TZ. Inflammatory processes, febrile seizures, and subsequent epileptogenesis. *Epilepsy Curr.* 2014;14:S15–22.
16. Vezzani A. Epilepsy and inflammation in the brain: overview and pathophysiology. *Epilepsy Curr.* 2014;14:S3–7.
17. Rossignol E, Kobow K, Simonato M, Loeb JA, Grisar T, Gilby KL, et al. WONOEP appraisal: new genetic approaches to study epilepsy. *Epilepsia.* 2014. doi:10.1111/epi.12692.