The Indian Journal of Pediatrics (October 2021) 88(10):991–992
https://doi.org/10.1007/s12098-021-03682-z

EDITORIAL

Epilepsy in Children—Important Facets

Pratibha Singhi[1] · Ajay Gupta[2]

Received: 25 January 2021 / Accepted: 25 January 2021 / Published online: 11 August 2021

Epilepsy is one of the most common neurological diseases globally. According to WHO estimates, around 50 million people worldwide have epilepsy and nearly 80% of these people live in low- and middle-income countries [1]—an estimated 12 million in India! In a community study of epilepsy in children from North India, the prevalence rates were 6.99 for rural area, 5.48 for urban areas, and 4.07 for active epilepsy per 1000 population [2].

Over 60% epilepsy starts in childhood; hence, the subject is of great importance to pediatricians. Articles for this symposium were selected to apprise pediatricians about some important aspects of childhood epilepsy with the aim of improving the care and management of children with epilepsy. A basic understanding of the types of seizures and epilepsies, and the various electroclinical syndromes in childhood is essential for a uniform approach to childhood epilepsy. Recently, attempts have been made to create a classification that is most befitting to the type of epilepsy and that provides a standard approach to epilepsy across the world [3]. The update on the approach to electroclinical syndromes gives a brief overview of these syndromes to the pediatricians to help them manage/refer children with epilepsy appropriately [4]. Several seizure types and epilepsy syndromes are peculiar to children. Infantile spasms and West syndrome have been known for over 100 y, yet there are delays in their diagnosis particularly in low-income countries; moreover, there are several controversies regarding the most appropriate management strategies. In general, adrenocorticotrophic hormone (ACTH) and steroids are considered the first line therapy but even their doses and duration are varyingly used; this is further complicated by the fact that natural ACTH is used in the USA, whereas synthetic ACTH is used in India and many neighboring countries. It has been established that delay in diagnosis, and hence delay in initiation of treatment, is associated with adverse outcome. The review of the topic in this supplement should be useful to increase awareness, and to provide information regarding the current management of infantile spasms [5]. Absence seizures are often missed or wrongly interpreted in children. While it is easy to diagnose and treat typical absences, recognition and management of atypical absences can be challenging. It is increasingly being recognized that childhood absences may be atypical—associated with myoclonic components, motor manifestations and also with temporal spikes, and these may affect the long-term outcome of these seizures. The review on absence seizures focuses on the presentation, electroclinical correlation, and management of the classic and the unusual types of these seizures [6]. Encephalopathy associated with electrical status epilepticus of sleep (ESES) occurs almost exclusively in children and several aspects, including its nomenclature, diagnostic criteria and the best therapeutic strategies, are still evolving. The review on ESES in this supplement is timely and helps clarify some important concepts of this electroclinical condition in addition to providing a practical approach to this difficult-to-manage condition [7]. Video-monitoring is often required to differentiate seizures from nonepileptic events and to characterize seizures; its role in childhood epilepsy has been discussed [8].

The discovery of several new antiseizure medications (ASM) since 1993, has provided many treatment options to the physician. This has also tempted some physicians to switch medications from older to newer ASMs indiscriminately. Until recently, most studies of these ASMs were done on adults and extrapolated to children. A basic knowledge of the indications and pharmacokinetics of these drugs in children, is essential for people who use these drugs; the article on select important ASMs precisely summarizes this information [9]. Despite the availability of several new ASMs, certain epilepsies and epileptic syndromes such as Lennox–Gastaut syndrome and Doose syndrome respond poorly to pharmacotherapy. What then are the options for management of such cases? The role of various dietary and other nonsurgical therapies and

✉ Pratibha Singhi
doctorpratibhasinghi@gmail.com

[1] Department of Pediatric Neurology and Neurodevelopment, Medanta, The Medicity, Gurgaon, Haryana, India

[2] Department of Neurology, Cleveland Clinic Lerner College of Medicine, Cleveland, OH 44195, USA

how to practically use these in the Indian context has been discussed [10]. There is an increasing understanding and acceptability of the role of epilepsy surgery in children. Contrary to the earlier thoughts of it being used as a last resort where all other options have failed, judicious use of early epilepsy surgery to minimize adverse effects of ongoing seizures on the child's development is now advocated. The various indications and a basic approach to presurgical workup has been explained in the article on epilepsy surgery [11]. Newer aspects of the metabolic basis of epilepsies are being discovered and many of the metabolic epilepsies can be specifically treated; some of the important ones have been summarized [12]. Genetics in epilepsy has now become an integral part of management. It often helps in parental counseling, predicting the prognosis and at times in selecting the most appropriate ASM. An exponential increase in the availability of genetic tests and a simultaneous increase in their affordability has made it easy for physicians to order these tests. However, most clinicians are confused about what tests are appropriate and especially how to interpret the results. The article on genetics in epilepsy explains these aspects in a simplified manner [13]. Several aspects of childhood epilepsy have been covered in this symposium. It is hoped that the readers will find this symposium useful in their daily practice.

Declarations

Conflict of Interest None.

References

1. WHO factsheet 20 June 2019. Available at: https://www.who.int/news-room/fact-sheets/detail/epilepsy. Accessed on 28 July 2020.
2. Pandey S, Singhi P, Bharti B. Prevalence and treatment gap in childhood epilepsy in a north Indian city: a community-based study. J Trop Pediatr. 2014;60:118–23.
3. Berg AT, Berkovic SF, Brodie MJ, et al. Revised terminology and concepts for organization of seizures and epilepsies: report of the ILAE commission on classification and terminology, 2005-2009. Epilepsia. 2010;51:676–85. https://doi.org/10.1111/j.1528-1167.2010.02522.x.
4. Singhi P, Sahu JK. An update to approach to the childhood electroclinical syndromes. Indian J Pediatr. 2020;87:1029–39.
5. Chopra SS. Infantile spasms and west syndrome - a clinician's perspective. Indian J Pediatr. 2020;87:1040–6.
6. Jain P. Absence seizures in children: usual and the unusual. Indian J Pediatr. 2020;87:1047–56.
7. RamachandranNair R. Encephalopathy associated with electrical status epilepticus of sleep (ESES): a practical approach. Indian J Pediatr. 2020;87:1057–61.
8. Kannan L, Jain P, Nayak D. Role of video-EEG in children. Indian J Pediatr. 2020. https://doi.org/10.1007/s12098-020-03605-4.
9. Singhi S, Gupta A. A review of the selected and newer anti-seizure medications used in childhood epilepsies. Indian J Pediatr. 2020. https://doi.org/10.1007/s12098-021-03857-8
10. Sondhi V, Sharma S. Non-pharmacological and non-surgical treatment of refractory childhood epilepsy. Indian J Pediatr. 2020;87:1062–9.
11. Madaan P, Gupta A, Gulati S. Pediatric epilepsy surgery: indications and evaluation. Indian J Pediatr. 2020. https://doi.org/10.1007/s12098-021-03668-x.
12. Reddy C, Saini AG. Metabolic epilepsy. Indian J Pediatr. 2020. https://doi.org/10.1007/s12098-020-03510-w.
13. Verma IC, Bhatia S, Arora V. Genetic testing in pediatric epilepsy. Indian J Pediatr. 2020. https://doi.org/10.1007/s12098-020-03512-8.