Electro-clinical Spectrum of Absence Epilepsy: A case series from India

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INTRODUCTION

- Absence seizures are generalized non-convulsive epileptic seizures expressed predominantly by disturbances of consciousness, with no or relatively little motor activity[1]
- Absence seizures are classified into typical and atypical absence based on EEG[2]
- Typical absence may occur in multiple genetic generalized epilepsies including childhood absence epilepsy (CAE), juvenile absence epilepsy (JAE), Jeavons syndrome (JS) and Juvenile myoclonic epilepsy (JME)[2,3].
- Electro-clinical distinctions between them differentiate these syndromes with absence seizures[2,3,4]

OBJECTIVES

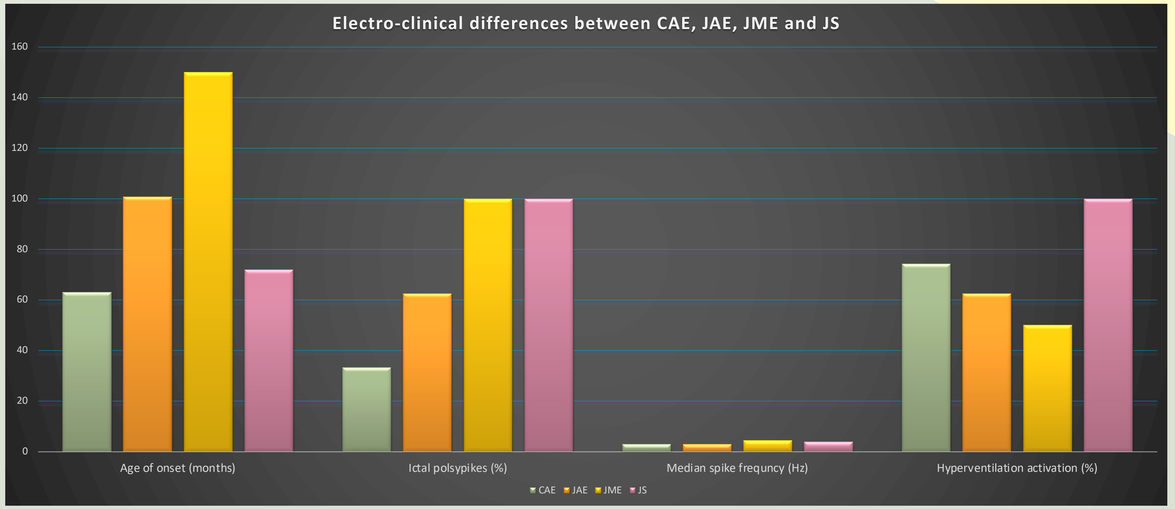
- Describe demographic profile of absence epilepsy in paediatric patients
- Outline clinical differences between various absence epilepsy syndromes in pediatric age group
- Differentiate ictal and inter-ictal EEG findings between various absence epilepsy syndromes in pediatric age group

MATERIALS AND METHODS

- Patients presenting to Rainbow children's Hospital, Hyderabad in between January 2018 to December 2021 with absence epilepsy were enrolled
- Detailed clinical information, video EEG, and brain imaging were obtained
- Written informed consent was taken

RESULTS

- 51children were enrolled: childhood absence epilepsy (CAE) in 39, juvenile absence epilepsy (JAE) in 8, Jeavon's syndrome (JS) and juvenile myoclonic epilepsy (JME) in 2 each.
- JME (150±8.49months) and JAE (100.75±26.87months) had later age of onset than CAE (63.15±29.01months) and JS (72±16.97months).
- Ictal motor phenomena were commonly seen in CAE: eyelid myoclonia (56.41%), shoulder myoclonia (28.2%), neck myoclonia (20.5%), automatisms (12.8%), perioral myoclonia (7.69%) were common
- Both ictal and inter-ictal polyspikes were more common in JS (100%, 100%) and JME (100%, 100%) than JAE (62.5%, 62.5%) and least common in CAE (33.33%, 41.03%)
- Unilateral focal inter-ictal epileptic discharges (IED) was seen in 1 patient with JS, and bilateral focal IED were seen in upto 50% patients of CAE and JAE
- Fronto-central predominance was common in all except for parieto-occipital predominance in 1 case each of JS and CAE
- Ictal EEG showed higher median spike frequency for JS (4Hz), JME (4.5Hz) than CAE (3Hz) and JAE (3 Hz)
- Photosensitivity was seen only in JS (2/2, 100%), and only in one child with CAE, none of the cases of JAE and JME showed photosensitivity
- Hyperventilation activated IED in JS (100%), CAE (74.36%), JAE (62.5%) and JME (50%)
- 65% cases with CAE showed good response with Valproate and 42% with Ethosuximide



CONCLUSIONS

- Motor phenomena are quite common in children with absence epilepsy
- Clinical and electrographic features help differentiate different absence epilepsy syndromes

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