Response to Vigabatrin versus ACTH in Infantile Epileptic Spasms Syndrome (IESS) at 6 Weeks: A randomized prospective study conducted at a Tertiary Care Center in Pakistan.

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Background

Infantile Epileptic Spasm Syndrome (IESS) is a severe epileptic condition affecting 1 in 2000 to 4000 live births, typically manifesting between 1 and 24 months (1). It peaks between 4 and 7 months, accompanied by hypsarrhythmia on EEG, indicating widespread abnormal electrical discharges (2). In treating IESS, the primary goal is promptly halting spasms and eliminating hypsarrhythmia. Treatment options include ACTH, oral steroids, and vigabatrin, (3) but data from lower-middle-income countries like Pakistan are lacking, raising questions about comparative effectiveness. Studies suggest shorter delays between diagnosis and treatment lead to better symptom reduction (4), but specific insights into how delay time affects neurodevelopmental outcomes are lacking. Understanding these impacts could enhance treatment strategies for IESS globally.

Objectives

1)Assess the effectiveness of first line therapy (Vigabatrin vs Hormonal) in infants with IESS, evaluated at 6 weeks.

2) Investigate the impact of delayed treatment initiation on the outcome.

Methods

A prospective study was conducted in the Department of Pediatric and Child Health at Aga Khan University Hospital (AKUH) from October 2022 to August 2023. Twenty-six infants aged 3 to 24 months, with IESS were enrolled.

The primary outcome was defined as the absence of epileptic spasm with a normal EEG pattern after 42 days of treatment.

Results

Table No. 1: Patients demographics

Variables	N (%) ± SEM
Mean Age (Months)	6.106 ± 3.257
Male	9 (25)
Female	27 (75)

Figure No. 1: Underlying etiology of patient's

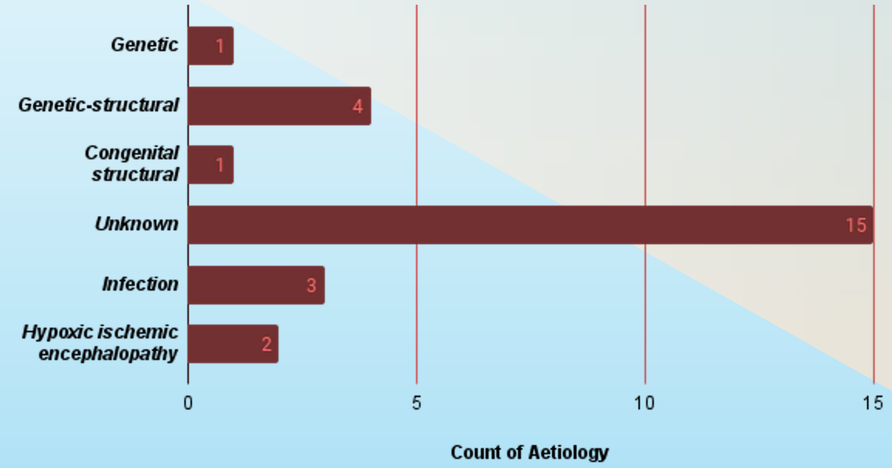


Figure No 2: Type of medications prescribed

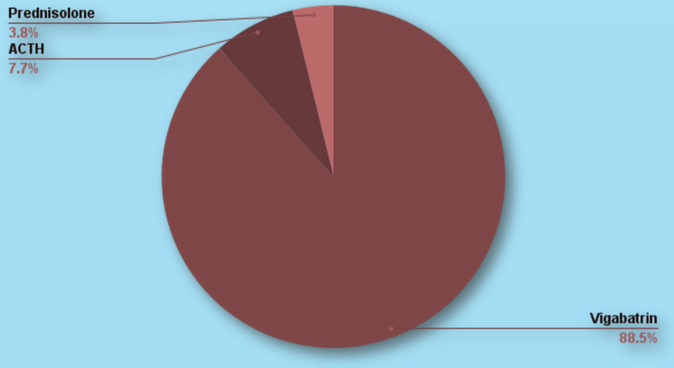
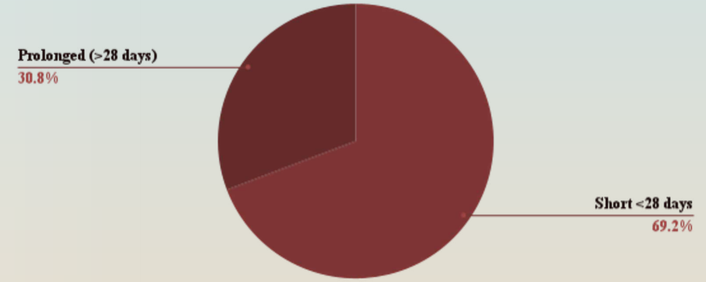


Table No 2: Type of medications and their associated EEG outcomes

Type of medication	Normal EEG finding (N%)	
	14 days (N=26)	42 days (N=16)
Vigabatrin	8 (34.7)	-
Hormonal Therapy (Prednisolone, ACTH)	2 (66.7)	-
Vigabatrin + Prednisolone	-	14 (87.5)
Vigabatrin + ACTH	-	2 (12.5)

Figure No 2: Delay in seeking treatment



Conclusions

Combining Vigabatrin and Hormonal therapy improves post-treatment EEG normalization over Vigabatrin alone. Prolonged treatment delay correlates with delayed seizure remission.

References

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