

INTRODUCTION

Epilepsy surgery is an important treatment option in children with drug-resistant epilepsy.(1,2) Preoperative evaluation of patients who are candidates for surgery; consists of non-invasive Phase 1 evaluation and Phase 2 studies with invasive evaluations added as needed. In phase 1 evaluation; long-term scalp video EEG monitoring (LTVEM) and brain magnetic resonance imaging (MRI) are performed.(1,3)

OBJECTIVE

We aimed reveal the results of the Phase 1 evaluation of pediatric patients with refractory epilepsy in our Video EEG Monitoring Unit, which is a 3rd Level Epilepsy Surgery Center, and to determine the variables affecting the prognosis.

MATERIAL & METHOD

All patients who were monitored at LTVEM between 2013-2021 and evaluated in the epilepsy surgery council were retrospectively analyzed.

RESULTS

The data of 523 patients who were long-term monitored (LTVEM) were reviewed; 466 of them diagnosed with refractory epilepsy owing to radiological and ictal EEG records and evaluated. MRI was normal in 158 patients (33.9%). There were pathological lesions on MRI in 308 patients (66.1%) and localized lesions in 87 patients (18.6%). As a result of the LTVEM, pathological findings of 114 (24.4%) patients were lateralized and localized, however 243 (52.1%) of them were generalised/multifocal. Surgery was decided on 88 (18.8%) patients evaluated in the Epilepsy Surgery Council. VNS decision was made in 141 (30.8%) patients who were not suitable for surgery.

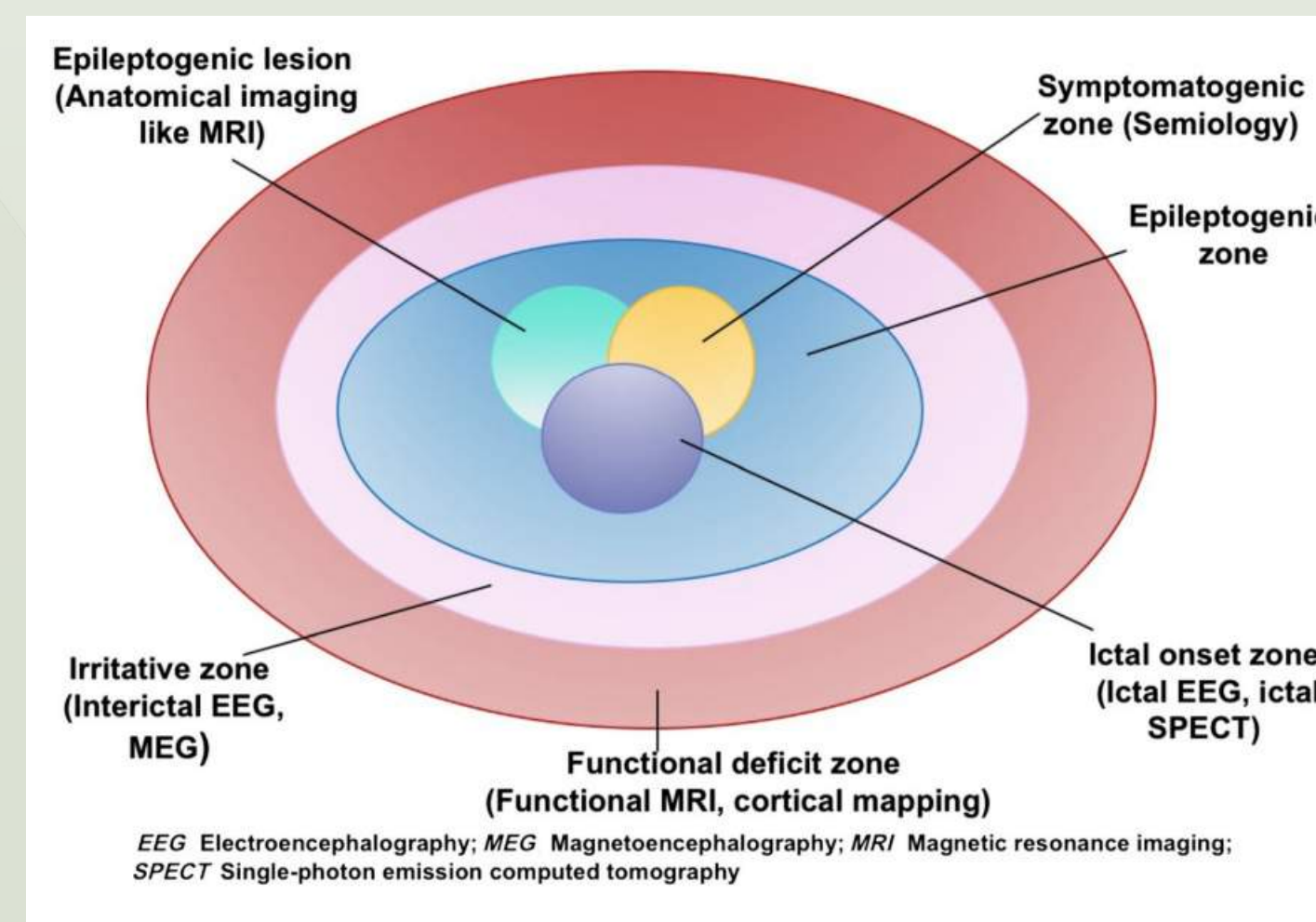


Figure I: Different zones along with yielding investigations (mentioned in brackets) according to the localization hypothesis (2)

CONCLUSION

Surgical decision rate was 18.8% as a result of the phase 1 evaluation. Pediatric patients with focal refractory epilepsy can be treated safely with resective surgery, owing to the Phase 1 evaluation.

REFERENCES

1. Herskovitz M, Schiller Y. Yield of Non-Invasive Phase 1 Presurgical Evaluation in Drug-Resistant Epilepsy Patients. *Isr Med Assoc J.* 2016 Feb;18(2):76-9. PMID: 26978997.
2. Madaan P, Gupta A, Gulati S. Pediatric Epilepsy Surgery: Indications and Evaluation. *Indian J Pediatr.* 2021 Oct;88(10):1000-1006. doi: 10.1007/s12098-021-03668-x. Epub 2021 Mar 19. PMID: 33740232.
3. Hirfanoglu T, Serdaroglu A, Kurt G, Erdem A, Capraz I, Bilir E, Vural O, Ucar M, Oner AY, Onal B, Akdemir O, Atay O, Arhan E, Aydin K. Outcomes of resective surgery in children and adolescents with focal lesional epilepsy: The experience of a tertiary epilepsy center. *Epilepsy Behav.* 2016 Oct;63:67-72. doi: 10.1016/j.yebeh.2016.07.039. Epub 2016 Aug 25. PMID: 27566969.
4. Asranna A, Babu Pasangulapati S, Menon R, Radhakrishnan A. Trends in pediatric epilepsy surgery: A lower-middle-income country perspective. *Acta Neurol Scand.* 2021 May;143(5):521-529. doi: 10.1111/ane.13393. Epub 2021 Jan 13. PMID: 33438764.
5. Beatty CW, Lockrow JP, Gedela S, Gehred A, Ostendorf AP. The Missed Value of Underutilizing Pediatric Epilepsy Surgery: A Systematic Review. *Semin Pediatr Neurol.* 2021 Oct;39:100917. doi: 10.1016/j.spen.2021.100917. Epub 2021 Aug 19. PMID: 34620465.