Health Technology Assessment in India (HTAIn)

सत्यमेव जयते
Goverment Of India

EVALUATION OF DRUG-RESISTANT EPILEPSY- PHASE 2: HEALTH TECHNOLOGY ASSESSMENT PERSPECTIVE

Health Technology Assessment in India (HTAIn)
All India Institute of Medical Sciences Jodhpur Rajasthan

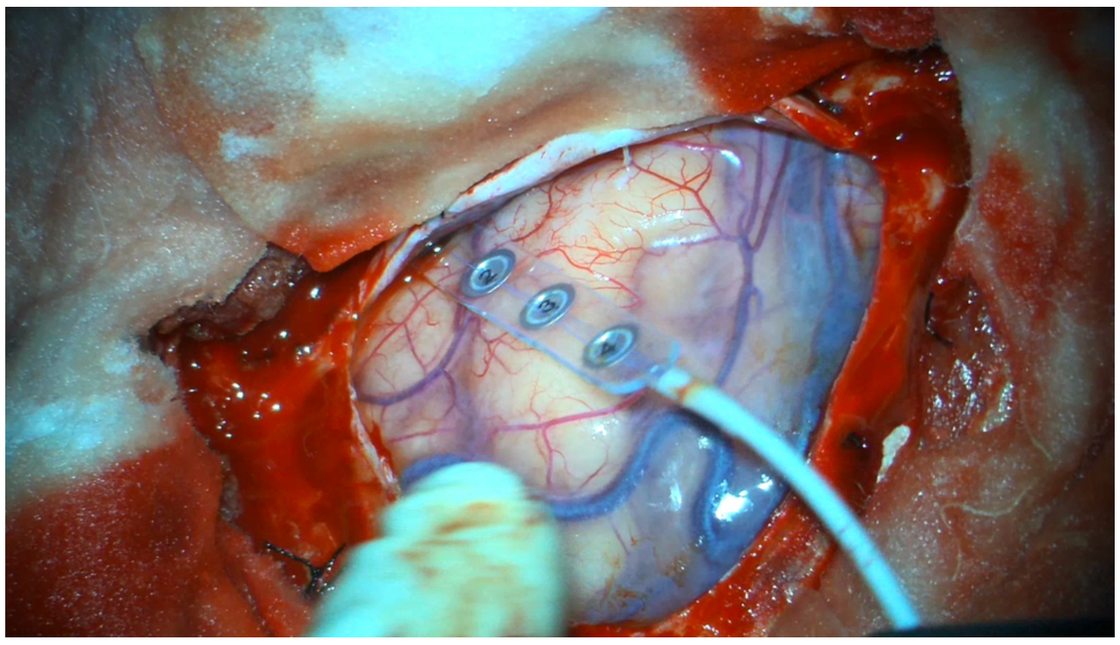
Policy brief

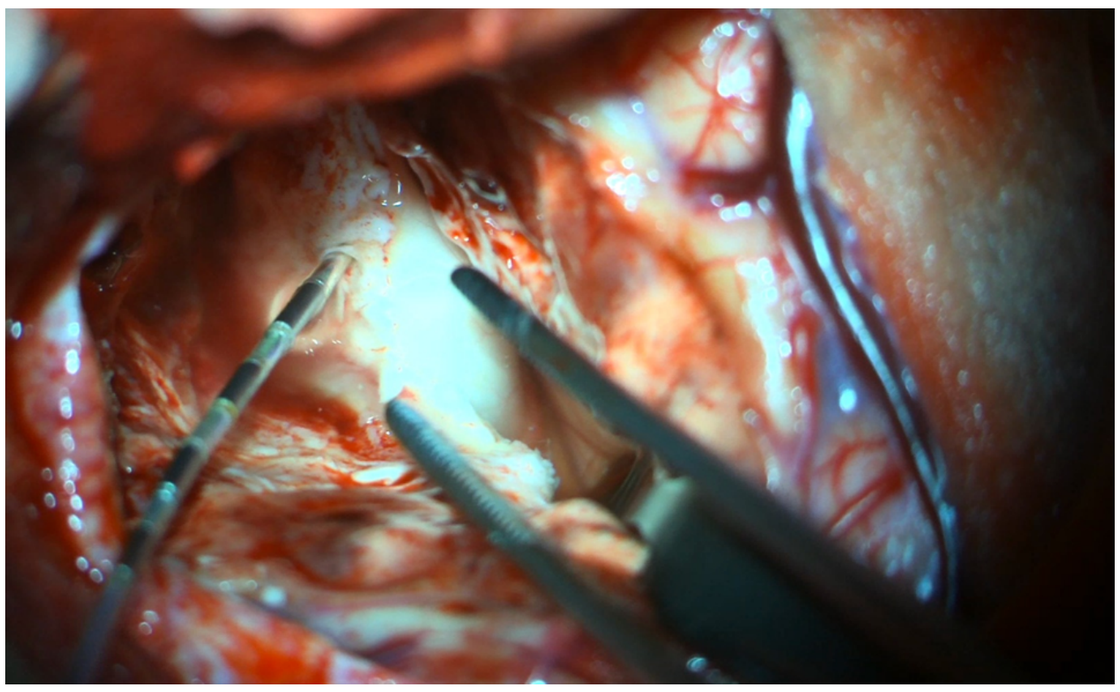
EXECUTIVE SUMMARY

- Epilepsy is a disease of the brain, which is categorized not only by a lasting tendency to cause seizures, but also by its neurologic, cognitive, psychological, societal, and economic consequences.
- While for a majority of people with epilepsy (PWE), the seizures get controlled with anti-epileptic drugs (AED), nearly 30% of PWE are drug-resistant.
- The main treatment options for drug-resistant epilepsy (DRE) is surgery, which includes diagnostic phases- Phase 1: Non- invasive pre-surgical evaluation (high-resolution MRI, video scalp EEG, PET scan, SPECT, MEG and detailed neuropsychological assessment) and Phase 2: Invasive pre-surgical evaluation (Intracranial EEG).
- This Health Technology Assessment aims to assess the clinical and cost-effectiveness of drug-resistant epilepsy Phase 2 patients followed by treatment.
- Since the clinical effectiveness of Phase 2 DRE patients is not established, the primary cost-effectiveness analysis was not done for the Indian context.

BACKGROUND

- Phase 2 is an invasive pre-surgical evaluation (Intracranial EEG). The long-term effect of introducing phase 2 for DRE patients needs evidence synthesis.
- There is no existing literature indicating the clinical and cost-effectiveness of phase 2 in DRE patients, especially in the Indian context.
- To fill this gap, there is a need to generate evidence regarding the clinical and cost-effectiveness of phase 2 in Indian context which will aid in policymaking.





POLICY RECOMMENDATIONS

There is no conclusive evidence suggesting the clinical superiority of diagnostic phase 2 in Drug Resistant Epilepsy patients. Hence, the clinical effectiveness of Phase 2 in Drug Resistant Epilepsy patients cannot be established.

OBJECTIVE

- To assess the incremental cost-effectiveness ratio in terms of cost per QALY gained and cost per seizure control.

METHODOLOGY

- A Systematic review and Meta-analysis was conducted as primary study was not feasible.
- Population: Drug-Resistant Epilepsy patients
- Intervention: Intracranial Electroencephalography (iEEG) followed by surgery
- Comparator: 1) Surgery after Phase 1 evaluation
  2) Best medical treatment after phase 1 evaluation
- Outcome: Clinical effectiveness of phase 2 in DRE patients

RESULTS

- A total of eighteen studies were included in this systematic review and ten studies were included for meta-analysis.
- Follow up duration ranges from 1 year to 10 years.
- The overall pooled estimate of the prevalence of seizure freedom (class I Engel) in patients undergoing surgery after iEEG was 53% (95% CI: 44, 62).
- On sub-group analysis for a follow-up period of 1 year, seizure freedom (class I Engel) in patients undergoing surgery after iEEG was 51% (CI: 36-65%).
- No data was available in Indian context.

CONCLUSION

- Future work is necessary regarding iEEG to gain a better understanding of how to inform patient choices and understand implications of these choices.
- Since the clinical and cost-effectiveness of DRE phase 2 is not established in Indian context, so the primary cost-effectiveness analysis was not done for India.

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