A Systematic Review of Surgical and Medical Management for Extratemporal Lobe Epilepsy

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Disclosures

- JS
  - Research funding from Medtronic and Boston Scientific paid directly to HFHS
  - Salary support as Associate Director of MSSIC from BCBSM
  - Consulting for Guidepoint Advisors
Introduction

- Extratemporal lobe epilepsy (ETLE) and its response to medical and surgical management pose unique challenges.
- Heterogeneity in etiology, localization, and proximity to eloquent structures lead to poor characterization of this disorder and the results of treatment.
- We report a systematic review of the literature of surgical and medical management of ETLE in order to further understand pre-operative and operative predictors of post-surgical outcomes.
Methods

- A PubMed review of articles published from 1991 and 2016 identifying all patients with ETLE was performed.
- Demographic data, details of epileptic disorder, medical and surgical outcome data and complications were collected.
Results

- 45 studies were included in the systematic review
  - 10 case series
  - 33 retrospective cohort studies
  - 3 prospective cohort studies
Results

- In the 36 studies with surgically treated patients and Engel long-term outcomes reported (total of 832 patients), the Engel I rate was 54.8% (95% CI=47 to 62.3). For Engel I or II combined, the rate was 66.6% (95% CI=60.1 to 72.5).
- For the medically treated patients, 3 studies with a total of 65 patients were identified.
- The pooled rate for ILAE I outcome was 35.8% (95% CI=13.2 to 72.1) and the ILAE I and II rate was 53.8% (95% CI=41.6 to 65.5).
Our analysis of the literature demonstrates an Engel I rate of 54.8% for surgically treated patients.

Further studies are necessary to elucidate techniques to improve outcome and to achieve better seizure freedom rates.
Summary Points

- ETLE is difficult to localize and treat leading to lower seizure free rates than TLE.
- Surgically treated patients have a better long-term outcome than medically treated patients.
- Further studies are necessary to elucidate techniques to improve outcome and to achieve better seizure freedom rates.