



Systematic Review of Seizure Freedom Rates after Surgical Resection of Dysembryoplastic Neuroepithelial Tumors

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Introduction

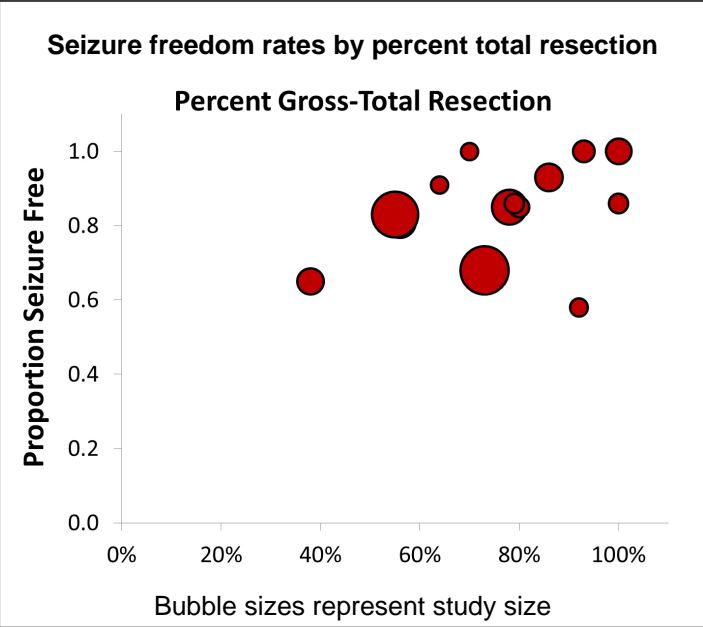
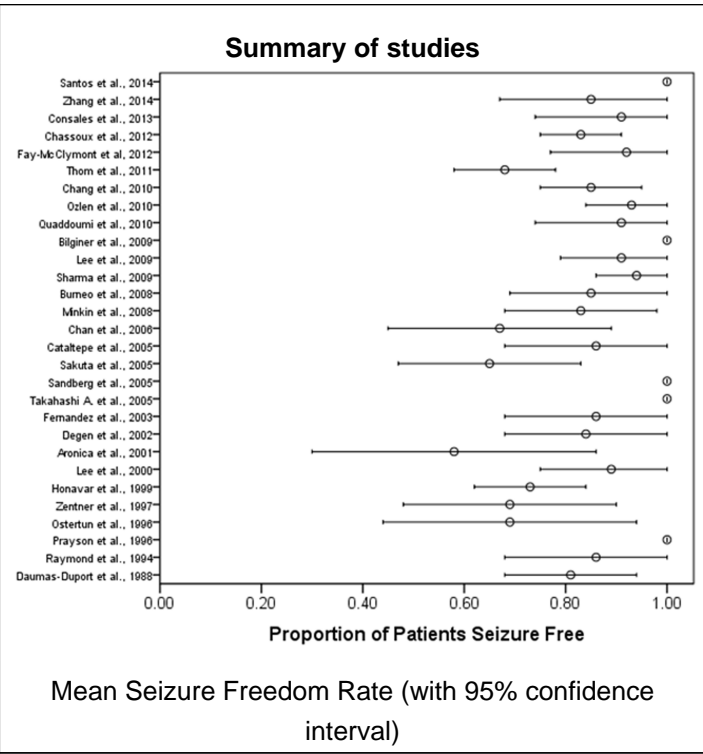
Dysembryoplastic neuroepithelial tumors present with seizures in the majority of cases. We report the results of a systematic review of seizure freedom rates following resection of these benign lesions.

Methods

We searched the English literature using PubMed for articles presenting seizure freedom rates for dysembryoplastic neuroepithelial tumors as a unique entity. Patient demographics, tumor characteristics, and operative variables were assessed across selected studies.

Results

Twenty-nine articles were included in the analysis. Median age at surgery across studies was 18 years (range: 6 - 33 years). Median duration of epilepsy pre-operatively was 7 years (range: 0.5 - 16 years). Pre-operative seizure resistance to anti-epileptic drug therapy was rarely reported in systematic fashion. Median gross-total resection rate across studies was 79% (interquartile range: 64% - 94%). Authors variously chose lesionectomy or extended lesionectomy operations within and across studies. Median seizure freedom rate was 86% (interquartile range: 77% - 93%), with only one studies reporting less than 60% of patients seizure free. Seizure outcomes were either reported at one year of follow-up or at last follow-up, which had a median of 4 years (range: 2 - 11 years). The number of seizure-free patients who were weaned from AEDs varied greatly across studies. Greater extent of resection was associated with seizure freedom in 4 studies.



Conclusions

In all but one study, the majority of patients were seizure free after surgical resection. The interquartile range for seizure freedom is 77% - 93% across studies. The extent of resection is likely an important factor in seizure freedom. Most patients remained on anti-epileptic drugs post-operatively.

Learning Objectives

By the conclusion of this session, participants should be able to: (1) Cite the approximate seizure freedom rate after surgical resection of dysembryoplastic neuroepithelial tumors, (2) Relate that most patients will achieve freedom from seizures, but will likely not be weaned from anti-epileptic drugs postoperatively.