

Patterns of Seizure Outcome and Recurrence After Laser Insterstitial Thermal Therapy Victor Du MD; Ashesh Mehta MD, PhD North Shore University Hospital, Northwell Health, Manhasset, NY, USA Feinstein Institute for Medical Research, Northwell Health, Manhasset, NY, USA



#### Introduction

Laser interstitial thermal therapy (LITT) is gaining acceptance as an alternative to craniotomy for resection of seizure foci. However, long term data and patterns of seizure recurrence are unavailable. We describe outcome on 28 patients undergoing laser ablation for epilepsy, including 23 patients with greater than 1 year outcome.

### Methods

Retrospective chart review was performed for 28 consecutive patients with at least 3 months of followup. When documentation was unavailable, patients were contacted by telephone. Engel and ILAE Outcomes were assessed at 3, 6 month, 1 and 2 year time points.

# Results

One patient was lost to followup. 6 patients had hypothalamic hamartomas (HH) and 22 had medial temporal lobe epilepsy (MTLE). While 94% of patients were seizure-free after 3 months, 15% of these patients had recurrence in the next three months. Of 79% of patients who were seizure free after the first 6 months, 13% of those patients developed seizures in the next 6 months. Only 1/13 (8%) of patients who were seizure free after the first year had seizure recurrence in the second year. At 1 year, 70% of patients in the entire series were seizure-free and the remainder had rare seizures. At 2 years, 54% were still seizure-free, with 30% having rare seizures and the remaining 8% with worse outcome. Best Engel 1 outcomes were seen in MTS (72% at 1 year; 60% two years) and hypothalamic hamartoma and mesial temporal tumors (100% at one and two years)

#### Conclusions

LITT demonstrates similar outcomes to those described using traditional open surgery for the treatment of epilepsy at 1 year and beyond for a variety of etiologies. Similarities between techniques apply not only to seizure-free outcome, but success rates with respect to pathology (with MTS and single

## Learning Objectives

To recognize LITT as a safe and efficacious treatment intervention for focal epilepsies such as mesial temporal sclerosis and hypothalamic hamartoma.

#### References

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