

**Magnetic brain source imaging (MSI) of focal epileptic activity** is reported in 455 cases of epilepsy examined preoperatively at University of Erlangen-Nuernberg, Germany (Stefan H et al. *Brain* 2003;126:2396-2405). The average sensitivity of magnetoencephalography (MEG) for specific epileptic activity was 70%, whereas MSI identified the lobe to be resected in 89% of 131 patients who underwent surgery. Those with extratemporal epilepsies were identified in a higher percentage than temporal lobe cases. In a study of 20 patients with **idiopathic generalized epilepsy** compared to healthy controls, magnetic resonance spectroscopic imaging showed a progressive thalamic neuronal dysfunction, independent of the amount of spike and wave activity (Bernasconi A et al. *Brain* 2003;126:2447-2454). The complementary use of MEG and EEG was useful in localizing the origin of cortical myoclonus in the right temporo-occipital cortex in a 15 year-old girl with Lafora-body disease (Verrotti A et al. *Acta Paediatr* Oct 2003;92:1218-1222).

## **HEMISPHERECTOMY FOR INTRACTABLE EPILEPSY**

Charts of 111 patients, ages 2 months to 20 years, who underwent hemidecortication for intractable unihemispheric epilepsy in the period 1975-2001 were reviewed at Johns Hopkins Hospital. The average time from seizure onset to operation was 3.6 years. Follow-up ranged from 3 months to 22 years (3 died in the perioperative period, 2 died later due to seizures, and 3 were lost to follow-up). Seizures were controlled in 65%, 21% had occasional seizures, and 14% were not benefited. One or no anticonvulsant was continued in 80%, and 89% were ambulatory. Outcome was correlated with etiology; patients with seizures caused by migrational disorders were controlled in 51%, whereas those with other seizure etiologies (Rasmussen and congenital vascular) were seizure-free in 71% ( $p=0.05$ ). (Kossoff EH, Vining EPG, Pillas DJ et al. Hemispherectomy for intractable unihemispheric epilepsy. Etiology vs outcome. *Neurology* October (1 of 2) 2003;61:887-890). (Reprints: Dr Eric Kossoff, Jefferson 128, The Johns Hopkins Hospital, 600 North Wolfe St, Baltimore, MD 21287).

COMMENT. The Johns Hopkins extensive series of hemispherectomies for intractable seizures demonstrates a beneficial response in 86% of cases, and the outcome is particularly favorable in patients with seizures due to Rasmussen syndrome and vascular disorders. The ideal time to operate remains undetermined. Significant morbidity or mortality occurred in 7%.

## **RASMUSSEN SYNDROME: RESPONSE TO THALIDOMIDE**

A 13-year-old girl with Rasmussen syndrome diagnosed at 5 years, and right-sided seizures refractory to various therapies, including hemispherectomy, responded to thalidomide and is reported from Belgrade, Yugoslavia. Initial control with carbamazepine, valproate and clonazepam was followed by relapse and a more extensive right hemiparesis. Despite resection of the cortical epileptogenic zones in the left hemisphere at 9 years of age, and trials of different anticonvulsants, acyclovir, g-globulin, iv methylprednisolone, oral prednisone, and plasma exchange, seizure frequency

increased. MRI showed atrophy and cystic changes in the left hemisphere with compensatory dilatation of the lateral ventricle. Thalidomide (300 mg/day) was added to a midazolam iv drip, and partial seizure control was sustained. For the past 3 years, her seizures have been less intense and less frequent and have not interfered with everyday activities. Treatment includes thalidomide 5 mg/kg, valproate 30 mg/kg, clonazepam and piracetam. Apart from occasional leukopenia, no other adverse effects are reported. (Marjanovic BD, Stojanov LM, Zdravkovic DS et al. Rasmussen syndrome and long-term response to thalidomide. *Pediatr Neurol* Aug 2003;29:151-156). (Respond: Dr Marjanovic, Department of Neurology, Pediatric Clinic of Mother and Child Health Care Institute, Belgrade, Yugoslavia).

COMMENT. Thalidomide may be considered as an alternative treatment for refractory and incapacitating seizures in Rasmussen syndrome, when more conventional therapies have failed. One previous report found thalidomide effective in a 7-year-old male with Rasmussen syndrome whose seizures were associated with high levels of CSF tumor necrosis factor  $\alpha$ . (Ravenscroft A et al. *Brain Dev* 1998;20:398). The antiepileptic effect may be related to inhibition of the tumor necrosis factor and boosting of the immune response. Apart from the high teratogenicity, a sensory neuropathy is the major adverse complication of thalidomide therapy.

## LEVETIRACETAM IN LANDAU-KLEFFNER SYNDROME

A 5-year-old girl with seizures and progressive language deterioration and a diagnosis of Landau-Kleffner syndrome was benefited by treatment with levetiracetam at Johns Hopkins Hospital, Baltimore, MD. Video-EEG monitoring showed continuous 2- to 3-Hz spike-wave discharges, maximal left, during sleep. Carbamazepine and valproate were tapered, and levetiracetam 500 mg twice daily (50 mg/kg/day) substituted. Seizures were controlled, the EEG at 12-month follow-up showed only focal left temporofrontal spikes, and language skills slowly improved. (Kossof EH, Boatman D, Freeman JM. Landau-Kleffner syndrome responsive to levetiracetam. *Epilepsy Behav* Oct 2003;4:571-575). (Respond: Dr Eric H Kossof, Department of Neurology, The Johns Hopkins Hospital, Jefferson 128, 600 North Wolfe St, Baltimore, MD 21287).

COMMENT. Psychotic behavior reported as an adverse reaction to levetiracetam needs to be weighed against possible benefits of treatment of LKS and other childhood epilepsies (Kossof EH et al. *Epilepsia* 2001;42:1611-1613).

The risk factors and incidence of behavioral abnormalities severe enough to require discontinuation of levetiracetam were determined in a study of 553 patients treated at the University of Minnesota, Minneapolis. (White JR et al. *Neurology* November 11, 2003;61:1218-1221). Thirty-eight patients (6.9%) discontinued levetiracetam because of behavioral abnormalities. Risk factors for this adverse reaction included a faster titration rate to maximal dose, history of a psychiatric disorder, and symptomatic generalized epilepsy. Slower titration to optimal dose levels is advised in patients at risk of behavioral or psychotic effects.

Phenacemide (Phenurone), a broad spectrum anticonvulsant, introduced in 1949, and effective in the control of complex partial (psychomotor) seizures, is particularly prone