

## CAN WE PREDICT ADVERSE PSYCHIATRIC OUTCOMES OF EPILEPSY SURGERY?

### Mania Following Temporal Lobectomy

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**PURPOSE:** To determine clinical and diagnostic variables that predict the development of mania after temporal lobectomy for treatment of refractory epilepsy.

**METHODS:** From a large surgical database, 16 patients with new-onset mania after temporal lobectomy were identified. Mania patients were frequency matched for age, gender, and laterality of surgery to 16 temporal lobectomy patients with no postoperative mood disorder. These groups were compared on pre- and postoperative clinical and diagnostic data with each other and with 30 patients with depression after temporal lobectomy. Post hoc analyses compared mania and depression groups with the general surgical database matched for gender and laterality of surgery.

**RESULTS:** Preoperative evaluations in postoperative mania patients, in particular EEG, were more likely to yield findings of brain dysfunction localizing to the hemisphere contralateral to temporal lobectomy. Right temporal lobectomy was more common in the postoperative mania group. Duration of manic episodes was usually transient, and all but one case remitted within 1 year after onset. In comparison with the control group, mania and depression groups had a higher likelihood for preoperative generalized tonic-clonic seizures and lack of seizure freedom after surgery.

**CONCLUSIONS:** A limitation of this study was the relatively small number of patients. Despite this, clinical features that distinguish patients at risk for postoperative mania from those with depression and those with no psychiatric illness include bitemporal EEG activity, and right temporal lobectomy.

### COMMENTARY

Psychiatric complications after epilepsy surgery are a vexing problem that can offset the benefit of improved seizure control. At the peak of the manifestations, some patients and their families state that they might not have chosen epilepsy surgery had they been informed of the potential psychiatric complications. Ability to identify preoperatively those patients at risk of psychiatric complications would be important for counseling purposes. Postoperative psychiatric complications of epilepsy surgery may include depression, anxiety, postictal and interictal psychosis, and psychogenic seizures (1-8). Mania, as a postoperative complication, has not been addressed in previous studies.

Carran and colleagues evaluated risk factors for mania after temporal lobectomy by comparing 16 affected patients and an equal number of subjects who had temporal lobectomy without postoperative psychiatric complications. They also had another comparison group of 30 patients with temporal lobectomy and postoperative depression. In comparison with controls or patients with postoperative depression, patients with postoperative mania were more likely to have had bilateral interictal epileptiform abnormalities or bilateral seizure onsets before surgery. Patients with mania (as well as those with depression) were more likely than controls to have postoperative seizure recurrence, probably as a result of bilateral seizure tendency. Unlike patients with postoperative depression, which was associated with preoperative psychopathology, those with postoperative mania did not differ from controls with respect to preoperative psychiatric diagnosis.

Risk factors vary for different psychiatric disorders that appear postoperatively (2,3,5,8), but bitemporal epileptiform abnormality and postoperative seizure recurrence seem to be frequently shared risk factors (2,4,5). Patients with bilateral epileptiform abnormalities or bilateral ictal onsets should be counseled that they have an increased risk of postoperative psychiatric difficulty as well as a greater likelihood of seizure persistence. Notwithstanding psychiatric complications of epilepsy surgery, the potentially favorable psychiatric effects of surgery for patients who become seizure free should not be overlooked (6,9).

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