

## Changes in psychiatric comorbidity during early post-surgical period in patients operated for medically refractory epilepsy: a MINI based follow-up study

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*Background and Objective:* Psychiatric disorders are described to co-exist, appear de-novo after surgery, or improve after surgery, in patients undergoing surgery for refractory epilepsy. We initiated this study to assess the frequency and type of axis I DSM-IV psychiatric disorders in the early post-operative period (first three months) in patients with refractory epilepsy undergoing surgery. The secondary aim was to evaluate the early outcome of surgery at 3 months in terms of improvement in quality of life and seizure frequency or severity, as well as to assess the predictors of psychiatric disorders post surgery.

*Method:* Patients with ‘medically refractory epilepsy’(persistent seizures > 2 per month, despite treatment with  $\geq 2$  appropriate drugs in adequate doses, for  $\geq 2$  years), who visited epilepsy clinic and subsequently underwent surgery for epilepsy from December 2005 to July 2007 at the Neurology Department of All India Institute of Medical Sciences (AIIMS) New Delhi, India, formed the study population. Characterization of the epilepsy type and localization and lateralization of epileptic focus was on the basis of clinical seizure semiology, video-electroencephalography (VEEG) data, magnetic resonance imaging (MRI) of brain and findings of interictal SPECT using HMPAO and ictal SPECT of brain using Tc-ECD with subtraction ictal SPECT co-registered to interictal SPECT (SISCOM). Mini International Neuropsychiatric Interview<sup>1</sup> (MINI) and Quality of Life in Epilepsy Inventory-10 (QOLIE-10)<sup>2</sup> were evaluated before and 3 months after surgery in 63 consecutive patients (23 females, 40 males; 58 temporal, 5 extra-temporal) who underwent surgery. The surgery were: Anterior temporal lobectomy with amygdalo-hippocampectomy for mesial temporal sclerosis, 45; electrocorticographic-guided lesionectomy for other lesions like cortical dysplasia, DNET, ganglioglioma and cavernoma, 18.

*Results:* Twenty seven patients (42.9%) had an axis 1 psychiatric disorder at baseline; 20.6% had depressive disorder, 23.8% had anxiety disorder, post traumatic stress disorder, psychosis and obsessive compulsive disorder were seen in two (3.2%) patients each. However, 35 (55.6%) patients had an axis 1 disorder at 3 months after surgery; 23.8% had depressive disorder, 29.0% had anxiety disorder, psychosis was found in three patients, while hypomania and obsessive compulsive disorder were found in two patients. Fourteen (22.2%) patients developed a de-novo psychiatric disorder post surgery, while 6 (9.5%) had improvement in their psychiatric disorder post surgery. Thirty seven (58.3%) patients had no seizure, 3 (4.8%) had only auras, 24 (25.2%) had non-disabling seizures while 6 (9.6%) had disabling seizures after surgery. Mean QOLIE-10 scores improved from 23.16 to 17.68, with 26 (41.3%) patients showed  $\geq 5$  point improvement. Mean QOLIE-10 scores in patients with psychiatric disorders (18.86) did not differ from that in patients without psychiatric disorders after surgery (16.15,  $p > 0.05$ ). Psychiatric disorder at baseline ( $p < 0.006$ ) and seizure occurrence after surgery ( $p < 0.057$ ) predicted the presence of psychiatric disorders after surgery. No clinical characteristic could predict development of new psychiatric disorder after surgery.

*Conclusions:* Psychiatric co-morbidity is common in patients undergoing surgery for refractory epilepsy despite which patients show improvement in epilepsy related quality of life after surgery. Psychiatric disorders may develop de novo in some patients, while they may improve post surgery in some, the causes for which require to be looked into through further studies.

## **References**

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