

Case Report

Organic Mood Disorder Following Left Anterior Temporal Lobectomy with Amygdalohippocampectomy

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ABSTRACT

One third of patients with antiepileptic-resistant temporal lobe epilepsy (TLE) will have to undergo surgery for a better seizure control. Anterior temporal lobectomy (ATL) is done for mesial temporal sclerosis that is the most common histopathological lesion associated with TLE. Psychiatric manifestations following ATL are not uncommon with depressive symptoms more common with left ATL and manic symptoms following right ATL. Mr. A is a 42-year-old left cerebral dominant (Confirmed by WADA test) male with no past history of psychiatric illness who had undergone anterior temporal lobectomy with amygdalohippocampectomy. He started having manic episodes post operatively which subsided with antipsychotics. He had multiple such episodes over the next 13 years with minimal inter episodic symptoms. This is a rare instance of manic symptoms following left-sided ATL that emphasizes the need for better understanding of the cerebral laterality of affective symptoms.

Key words: Anterior temporal lobectomy, mania, mood disorder


INTRODUCTION

Around 30% of the patients with drug-resistant temporal lobe epilepsy (TLE) have the option of a surgical treatment^[1] as the most common pathology on histopathology and radiological examination is mesial temporal sclerosis (MTS).^[2] Anterior temporal lobectomy (ATL) offers the best chance of achieving seizure control, resulting in seizure freedom in 50-80% of patients undergoing this procedure.^[3] Psychiatric symptoms after ATL is not an uncommon finding with depressive symptoms being predominant.^[4] Manic and hypomanic symptoms after ATL is a rare

phenomenon^[5] mostly reported in case series. We report a case with manic syndrome following left-sided ATL.

CASE REPORT

Mr. A is a 42-year-old left cerebral dominant (Confirmed by WADA test) male who is the third born, out of a non consanguineous marriage with no past history or family history of mental illness. He had several stereotyped attacks of complex partial seizures with aura and automatisms from young age and a seizure frequency of approximately one episode per month. His seizures were identified to be of left temporal in origin with the help of video EEG recordings. MRI brain showed left-sided MTS. His seizures were refractory to antiepileptic drugs and hence surgical option was considered. Anterior temporal lobectomy (ATL) with amygdalohippocampectomy (AH) was done on the left side in December 2001. No psychiatric problems were noted during premorbid evaluation by a psychiatrist except reports of 'proneness to irritability' from relatives.

Access this article online	
Website: www.ijpm.info	Quick Response Code 
DOI: 10.4103/0253-7176.168590	

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In the immediate postoperative period itself, he developed behavioural disturbance in the form of irritability, excessive talk, over familiarity, and making tall claims like he has a lot of property in his name. He had disturbed sleep and poor appetite. These symptoms lasted for around 3 months and he was on put antipsychotics. Following this, his symptoms improved. He later stopped his medications abruptly and had another episode of similar illness around a year later. Subsequently, he developed around six episodes of similar symptoms in the next 13 years with each episode lasting around 2-3 months. There were only minimal interepisodic symptoms and he was functioning well with no prophylactic medications in between the episodes. Seizures were not reported after the surgery.

The current episode was of 1-month duration. On current mental state examination he was not fully cooperative for the interview and his talk was increased in tempo and amount. He was making tall claims and had an irritable mood during the interview. He was oriented to time, place, and person. His personal and social judgment was impaired and had a poor insight to his symptoms. He was alleging that it was his wife and not he, who had psychiatric illness for which she needed medications. Physical examination yielded no significant findings. A diagnosis of organic mood disorder was made. He is put on olanzapine and is on regular follow up.

DISCUSSION

A major complication of temporal lobe surgery is the development of a long-term psychiatric illness, which occurs in clear consciousness and is not related to seizure activity.^[5] Around half of the postoperative patients report some psychopathology with depressive symptoms (55.6%) being the most common presentation.^[6] Anxiety symptoms (27%), emotional liability (19%), and psychotic symptoms (4.8%) are also seen after ATL.^[6] Mr. A is a person with fresh onset of manic symptoms immediately following left ATL with AH in the absence of positive family history.

Several models are proposed for the emergence of manic symptoms following ATL. Valence theory suggests that the right hemisphere is more concerned with the negative emotions while the left side with positive emotions.^[7] Hence, removal of the right side of brain can lead to an excessive activity of the left side of the brain and associated increase in positive emotions.^[7,8] But in this case, it was the left side that

was operated upon. Another hypothesis is regarding white matter dysfunction. When AH is done along with ATL there is disruption of white matter which results in a compensatory increase in synapses and loss of cortical inhibition.^[5] Manic symptoms could also be due to the residual epileptiform activity occurring even after surgery.^[9] It has been reported that more cortical dysfunction is seen with postoperative mania and more thalamic involvement in case of depressive symptoms.^[10] Literature says that mania is more common following the right-sided surgeries and depression more common following the left-side ones.^[5] Therefore, this case is one of the rare occasions of left-sided ATL precipitating manic symptoms and it demonstrates that our understanding of the relationship of mood and cerebral lateralization is far from complete.

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How to cite this article: Haridas NJ, Kalayil RV, Tharayil HM, Rappai MP. Organic mood disorder following left anterior temporal lobectomy with amygdalohippocampectomy. *Indian J Psychol Med* 2015;37:441-2.

Source of Support: Nil, **Conflict of Interest:** None.