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TO THE EDITOR

Ethanol Abuse After a Right Temporal Lobe Resection for Intractable Epilepsy

In temporal lobe epilepsy, surgery is shown to be superior to medical therapy¹. Although a large number of patients may become seizure free post surgically (>50%), the relationship between seizure freedom and the psychosocial adjustment is complex and not always has a positive linear relationship.

One of the main challenges that patients face post epilepsy surgery is to give up the sick role. The occurrence of post-operative cognitive changes, mood disturbance and psychosis have been reported². Moreover, behavioural changes such as hypergraphia, anxiety, panic attacks and lack of behavioural flexibility are reported after unilateral mesial temporal resection; however, ethanol abuse after temporal lobectomy has not been reported before³. We report a patient that became seizure free after right temporal resection, however, his quality of life was negatively affected by a prominent ethanol abuse that started post-surgery.

We describe a 47-year-old right hand dominant male with a 17 year history of complex partial seizures with secondary generalization. His seizures were well controlled with

carbamazepine (CBZ) 600mg bid for 14 years and after that, they became intractable despite his compliance. Lamotrigine (LTG) 150 mg bid was added to the treatment and seizures were controlled for a few months but he continued to have simple partial and complex partial seizures at least twice per week and progressive difficulty with memory (possible medication related). The auras were referred by the patient as an epigastric rising sensation.

The patient had some episodes of mood swings and obsessive behaviour in the past but never had to be treated. His brother also had anxiety disorder and his mother had suffered from depression and committed suicide. The patient had no history of substance abuse but his father and brother abused ethanol. His neurological exam was unremarkable. Magnetic resonance imaging (MRI) of his brain and multiple outpatient electroencephalograms (EEGs) were normal.

A video-EEG telemetry recorded eight seizures all originating from right temporal region and two psychogenic non-epileptic events. He underwent neuropsychological testing which showed no contraindication for right temporal lobectomy. He underwent standard right temporal lobectomy guided with electrocorticography (ECoG), showing mesial and neocortical temporal spikes. There were no complications postoperatively and the

patient became seizure free and was able to decrease his antiseizure medications (CBZ from 600mg bid to none, and LTG from 150mg bid to 75mg bid) over four months.

One month after resection the patient developed some psychiatric features including difficulty accepting his seizure free status, obsessions of contamination, hyperactive and manic episodes, decreased behavioural flexibility, and significant ethanol abuse. His neuropsychological reassessment showed no change, and his EEG showed theta slowing over the right temporal region but no epileptiform activity. His psychiatric features initially resolved after increasing lamotrigine to 125mg twice a day and treatment with risperidone for one month. His alcohol abuse also resolved after spending some time in a rehabilitation center.

He restarted working full time four months post resection surgery. Unfortunately, after a few months the patient started to abuse ethanol again with significant negative impact on his performance at home and work well as one generalized tonic clonic seizure due to ethanol withdrawal. Later, he developed depression and aggression towards his family. He was referred to a psychiatrist and treatment with venlafaxine at 75mg per day was started for depression and dextroamphetamine 5mg one to two times per day was also started which improved his cognitive slowing. One year after the temporal lobectomy he was referred again to an ethanol-dependence rehabilitation center. He remains seizure free after two years of follow-up with intermittent burst of alcohol ingestion.

This patient developed depression, decreased behavioural flexibility, and significant ethanol abuse after right temporal lobectomy. As temporal resection and discontinuation of CBZ occurred around the same time, it is difficult to identify one of these factors as an independent cause for ethanol abuse. Studies in animal models have shown that ethanol reward appears to depend on an interaction with the GABAA receptor, dopamine, and opioid peptides in the reward pathway that includes the limbic system⁴.

Therefore, mesial temporal and limbic resections presumably affect ethanol abuse in humans; however, it is not known if the unilateral resection such as in our patient will have a significant clinical effect. Our patient had familial predisposition to ethanol abuse, which could have remained dormant due to treatment with carbamazepine for many years. After epilepsy surgery, CBZ was discontinued as he became seizure free and therefore his alcohol

dependence may have been revealed. Previous case series and randomized open-labeled clinical trials have shown that CBZ and oxcarbazepine likely decrease alcohol dependence and recurrence of abuse after a period of abstinence⁵.

This is the first case reporting the onset of alcoholism after a right temporal resection. As we mentioned in our discussion this patient had other risk factors to develop alcoholism including the family history of alcoholism and the withdrawal of CBZ. Overall we believed that the onset of alcoholism was multifactorial, although the mesial and neocortical structures of the right temporal region could be involved in the pathophysiology of alcoholism. In conclusion based in our case it is important to consider strong family history of ethanol dependence as a possible relative contraindication for temporal lobectomy or discontinuation of CBZ post operatively. Further assessment of this issue in a large number of patients is required to confirm the association.

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TO THE EDITOR

A Case of Bilateral Homonymous Hemianopsia with Macular Sparing

A 55-year-old woman presented in December 2008 with a complete left homonymous congruent hemianopsia. Multiple territories stroke was diagnosed, including the right occipital lobe. At this time, a superior left lobe tumor of lung was suspected and out-of-hospital investigated. She was discharged with ASA and atorvastatin. In January 2009, she presented with complete right homonymous hemianopsia but was still able to see with her central field of vision. The Goldmann's test showed

a sparing of central vision of about 5 to 10 degrees on both sides, with the exception of an inferior right homonymous quadranoptic macular defect. (Figure A) Once again, multiple territories stroke was diagnosed, including one in her left occipital lobe.

The pneumology team diagnosed a lung adenocarcinoma (3b stage). The complete cardiovascular investigation was normal. An exhaustive hematologic testing has shown anticardiolipin antibodies (IgM) increased at 14.6 UPL (N<9.0). ASA has been stopped and she left hospital with dalteparin. At the end of February, she demonstrated improved vision in the right temporal crescent by Goldmann's visual field test.