

Case report

Topiramate related obsessive–compulsive disorder

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1. Introduction

Topiramate (TPM) is a novel anti-epileptic drug (AED) effective against both partial and generalized seizures [7]. It has also positive psychotropic properties and is being studied for the prophylactic treatment of bipolar disorder and migraine [9,5].

Somnolence, dizziness, tiredness, ataxia, headache, cognitive i.e. psychomotor slowing, impaired concentration, speech and language problems, mental confusion and other psychiatric adverse effects (i.e. depression, nervousness, behavioral problems, mood liability, and acute psychotic disorder) may emerge after the use of TPM [6,3]. However, to our knowledge this is the first case of obsessive–compulsive disorder (OCD) that may be related to TPM administration.

2. Case report

We present a 19-year old male patient with cryptogenic partial epilepsy who had seizures since the age of six. There were not any known risk factors related to the early childhood for the seizures. Family or personal history was negative for both epilepsy and psychiatric disorders. The ictal

video- electroencephalography (EEG) showed epileptiform activity at left parieto-occipital region whereas magnetic resonance imaging was normal. Although he was treated with several AEDs in different combinations unsuccessfully, seizures persisted to occur 8–9 times a month. He had been on carbamazepine (CBZ) 1000 mg/day for 6 and lamotrigine 300 mg/day for 4 years. TPM was added to ongoing therapy starting with 25 mg/day with 25 mg increments every week. When the dose was reached to 150/day the frequency of seizures was markedly improved, then CBZ was reduced gradually to 300 mg/day and TPM was increased to 200 mg/day.

However, 7 months later his mother complained about his behavioral problems that started within the first week of the initiation of TPM and gradually increased in 3 months. The fear of germs or being contaminated was the first symptom after which compulsive washing and checking behaviors ensued. As his seizures were very well controlled the patients and his family initially disregarded these changes in behavior. During the psychiatric examination it became clear that he exhibited range of obsessions primarily centered on harm befalling on himself and his family. He spent 3–4 hours a day checking the stove, doors, washing his hands, and counting. This would cause him to walk back and forth across doorway many times, in an effort to confirm that he checked everything to prevent a fire or a burglar that might be harmful to his family. These obsessive–compulsive behaviors were gradually increased to cause him to spend considerable time and energy that started to interfere with his daily activities. He was diagnosed as OCD according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV and given Yale Brown Obsessive Compulsive Scale (YBOCS) on

Abbreviations: TPM, Topiramate; AED, anti-epileptic drug; OCD, obsessive-compulsive disorder; CBZ, carbamazepine; LTG, lamotrigine; MRI, magnetic resonance imaging; EEG, electroencephalography; YBOCS, Yale Brown Obsessive Compulsive Scale; DSM-IV, Diagnostic and Statistical Manual of Mental Disorders.

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which he scored 31 (obsession subscale 13; compulsion subscale 18). His physical and neurological examination was normal.

Citalopram was started 40 mg/day then increased to 60 mg/day in 2 weeks whereas TPM was tapered in 2 weeks. Within 10 weeks, OCD symptoms were markedly improved, YBOCS score was 16 (obsession subscale 6; compulsion subscale 10) but the seizures started again. CBZ dosage was initially increased to 400 mg/day that was gradually increased to 800 and lamotrigine (LTG) to 300 mg/day while citalopram was increased to 60 mg/day for the next 9 months. The OCD symptoms continued to improve during this period although full remittance has not been achieved.

3. Discussion

Fifty–sixty percent of patients with epilepsy have been reported to develop psychiatric disturbances, particularly mood, anxiety, and psychotic disorders, which are more likely to occur in patients with temporal and frontal lobe origin and with poorly controlled seizures. However, OCD is relatively uncommon in patients with epilepsy, except for a few case reports [4]. Less heritability has been reported in adult onset OCD compared to earlier onset [7]. Taken together with negative personal and family psychiatric history it may be hypothesized that the other possible etiological risk factors may be ruled out in our patient. TPM is known to induce some psychiatric disorders due to unclear mechanisms on one hand but demonstrated to be effective for anxiety, obsessive–compulsive spectrum disorders (binge eating, kleptomania), and bipolar disorder an adjunctive agent on the other [8,9]. There has been only one case report of OCD in literature related to zonisamide that is another novel AED [2].

The first explanative hypothesis is that OCD emerged after TPM coincidentally since definite causal relationship between TPM and OCD is not easy to demonstrate. It may be argued that OCD would have been remitted without SSRI treatment after TPM withdrawn, keeping in mind the possibility of illness having its own course. Since OCD was causing serious impairment in our patient's daily activities and the patient was living in another city, an anti-obsessive treatment has been started.

However, being cautious about novel AEDs, another explanation may be the development of alternative psychosis

after suppression of seizures. The analysis of 103 patients on TPM who developed psychiatric disorders showed that 46 had an affective disorder, 22 aggressive behavior, 16 psychosis, 11 anxiety, and eight personality changes [6]. The patients who developed psychoses were more likely to be seizure-free than patients with other forms of psychopathology. This finding gave support to the hypothesis of forced normalization. Since seizure frequency was also remarkably decreased in our patient after TPM, forced normalization could also be taken into account for explanation. Furthermore high starting dose and rapid titration schedule indicated as risk factors for psychiatric side effects, which were not the case in our patient [6].

In conclusion, the occurrence OCD right after TPM use may give rise to the possibility of an association, although it is difficult to explain a causal definitive relationship between OCD and TPM. Nevertheless since TPM has been reported to be related with psychiatric adverse effects, it is worth to be closely monitored when administered to a patient.

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