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Case Report

Seizure in a patient on Wellbutrin: a case report

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ABSTRACT

We are reporting the case of drug-induced seizure in a 32-year-old Hispanic female who was taking wellbutrin for major depression. Our patient was taking 300 mg/day of wellbutrin when she had one episode of generalized seizure. Wellbutrin uses, side effects, and contraindications are discussed in this case report. Moreover, the factors that make individuals more vulnerable to seizures, as a side effect of wellbutrin, are also highlighted. Interestingly, wellbutrin also has addiction potential hence its abuse is becoming increasingly common that makes it crucial for the clinicians to rule out any history of substance abuse before prescribing it. Literature review has shown a reported case of seizure as a side effect of wellbutrin. Our patient remained seizure free after wellbutrin was discontinued making it the possible cause for her seizure episode.

Keywords: Wellbutrin, Seizure, Major depression

INTRODUCTION

Bupropion, also known as wellbutrin, is a dopamine and norepinephrine reuptake inhibitor. On monoamine oxidase receptors, it has no effects but it has minimal effects on serotonin receptors.[1] It is hard to distinguish if the cause of the seizure is drug-induced or due to some other reason. Generalized seizure is the type of seizure usually prevalent if the seizure is drug-induced.[2]

The incidence of seizure induced by wellbutrin is 0.35-0.44% with a dose of 450 mg/day or less.[3] Most drugs cause seizures is by reducing the threshold for seizure. Sometimes, the risk is even increased if agents lowering the seizure threshold are used in combination. Alcohol, having the same effect, can increase the likelihood for seizure if used simultaneously with the offending drugs that can cause seizure.[2]

CASE REPORT

The patient is a 32-year-old Hispanic female, married, domiciled, homemaker, without any past medical history of seizure disorder, with past psychiatric history of depression was brought into the emergency room with one episode of seizure at the grocery store, eye witnessed by the bystanders. The patient denied any overdose, fever, neck pain or rash. However, the detailed information about the event is not available. The patient had a generalized seizure with shakiness and impairment of consciousness. The seizure event was not followed by signs such as tongue biting or loss of bladder control. Patient's current medications were reviewed that included prozac 60 mg/day, abilify 20 mg/day, wellbutrin 300 mg/day, and adderall 40 mg/day. The patient reported that since 4 years she was on abilify and prozac but her depressive symptoms were not fully controlled, so wellbutrin was added to the drug regimen. Patient reported that wellbutrin dose was increased from 90 mg/day to 300 mg/day 1 month ago before the seizure event. Patient further reported that she has depression since 12 years with one hospitalization in the psychiatric unit and she rated it 6/10 in intensity. Patient denied any suicidal ideations or plans in the past but reported hearing voices in the past during the episode of depression. Patient seemed to be logical without any delusions. Patient denied any visual/auditory

hallucinations. Patient further reported being fatigued easily with low energy level and bored but admitted to enjoy spending time with her children. Patient denied any sleep or appetite disturbance. Patient admitted using cocaine; last use was 1 week ago before the seizure event. Patient denied any other substance abuse. Patient was asked about alcohol use to rule out alcohol withdrawal as a cause of seizure, but patient denied any alcohol use. Patient reported smoking cigarettes about half pack/day. Patient denied any family history of seizure disorder. Ativan, as needed for seizures, was administered at the time of presentation to the emergency room.

On examination, patient was alert and oriented. The neurological exam was unremarkable. Patient was vitally stable with normal blood pressure and heart rate. Patient's blood sugar was within normal limit. Complete blood count and comprehensive metabolic panel were done to rule out other causes of seizures such as anemia or electrolyte imbalance. Her hemoglobin was 13.5 g/dl. Electrocardiogram, electrolytes, hepatic panel and urine drug screen were negative. Neuroimaging was conducted to rule out any organic cause, but it was reported normal as well. Alcohol and bupropion level were not done.

Patient was admitted to the medical floor for observation and further management. Considering wellbutrin as a possible cause of seizure, psychiatry was consulted for medication adjustment. Wellbutrin was considered as the possible cause, hence was discontinued and the patient remained seizure free after its discontinuation.

DISCUSSION

It works as an antidepressant but is also helpful in treating smoking cessation making it a better choice for smokers with a history of depression.[1] Our patient is a smoker, so maybe this could be the reason wellbutrin was added to the medication regimen. Literature review revealed its effectiveness for clinical depression. Cases were reported regarding its beneficial role for patients with trichotillomania.[4]

Literature searched on PubMed that revealed sexual dysfunction,[5] acute myocardial infarction,[6] acute psychosis,[7] and serotonin syndrome as possible reported side effects of bupropion.[8]

A case of hypomania in a patient taking bupropion for smoking cessation was also reported in 2013.[9] In 2004, a case of seizure induced by bupropion was reported in a Mauritian woman.[10] Bupropion causes a dose-related lowering of resting motor tone, as reported by a study in 2011.[11] Moreover, a fatal case of bupropion-induced hepatotoxicity was also reported in 2007.[12]

The first case of recreational bupropion abuse was also reported by a teenage girl in 2002,[13] hence we recommend using bupropion with caution in patients with a history of substance abuse. Patient had history of cocaine abuse, but the negative urine drug screen makes it an unlikely cause, however, a case of seizure in an infant was reported in 2009 due to passive cocaine exposure.[14]

This patient was also taking adderall, abilify, and prozac so a PubMed search was conducted to find seizure as a possible side effect of those three medications. Although, no significant data reporting seizure as a side effect of those medications were demonstrated. Literature reviewed for the possible drug interactions but unfortunately no significant data was available. Hence, wellbutrin was possibly the cause of seizures in our patient as the patient remained seizure free after it was discontinued.

CONCLUSION

Wellbutrin, an antidepressant, can cause seizure as a side effect hence it should be considered as a possible cause in new-onset seizures. Moreover, it has addiction potential which makes it crucial for the physicians to rule out any history of substance abuse before prescribing it.

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