Movement Disorders
CLINICAL PRACTICE

CASE REPORT

Tics Induced by Sertraline: Case Report and Literature Review

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The widespread use of serotonin selective reuptake inhibitors (SSRIs) has revealed an increasing number of patients with movement disorders induced by this class of drugs. Movement disorders most frequently associated with SSRIs include akathisia, dystonia, parkinsonism, and tardive dyskinesia. There are few reports of extrapyramidal side effects induced by sertraline, being the most common akathisia.[1]

Tics are sudden, brief, and intermittent movements (motor tics) or sounds (phonic tics).[2] Tics are temporarily suppressible with rising inner tension. They can increase with stress and relaxation and decrease with distraction and concentration.[2] Motor tics can be classified into clonic (jerky movements, lasting milliseconds), or dystonic (slow and temporarily sustained movements, producing briefly maintained abnormal postures).[3] We present a female who developed tics after being treated with sertraline.

Case Report

We describe a 78-year-old female without neurological disorders in child or adulthood. When first observed, she complained of forgetfulness for 1 year, without major impairment in everyday life. She also presented extreme sadness, anxiety, and hopelessness. Neuropsychological evaluation disclosed subtle changes in executive functioning and other cognitive domains (attention, psychomotor speed, language, and verbal memory). Neurological examination was normal. A depressive syndrome was diagnosed and she was started on sertraline 50 mg/day. One month later, she developed involuntary movements characterized by an abnormal cervical posture with neck extension, eyebrow elevation, shoulder shrug, gasping, and throat clearing noises (see Video, Segment 1). The patient was able to voluntarily suppress all movements, with rising inner tension and subsequent explosion of involuntary movements and sounds. While not suppressing, she could improve the cervical posture by placing her hand on the chin (see Video, Segment 1). On clinical grounds, the movement disorder present was a tic disorder characterized by dystonic, clonic, and phonic tics. Sertraline was discontinued with major improvement (see Video, Segment 2). Even though a causal relation between sertraline and tics was suspected, an investigation to exclude other causes of adult-onset tics was conducted. Brain MRI revealed cortical atrophy and small subcortical hyperintense T2 lesions. There were no basal ganglia lesions. Laboratory tests, including complete blood count, renal, liver, and thyroid function, vitamin B12, folic acid, serological reactions for syphilis, and human immunodeficiency virus, were normal/negative. For 1 year, she reported transient reappearance of tics in situations of stress. After her husband deceased, sertraline was reintroduced by her family doctor. One week later, tics reappeared, with moderate severity (see Video, Segment 3). Again, it was discontinued with total clinical resolution (see Video, Segment 4). For the past 18 months, she has not been exposed to sertraline or other SSRIs and has been tics free.

Comments

The debate on drug-induced movement disorders followed the discovery of chlorpromazine in 1952. Since then, neuroleptic-induced movement disorders have been deeply researched, but the ones associated with antidepressants are under-recognized. The incidence of movement disorders caused by SSRIs is unknown, because there have been few systematic epidemiological studies and most of the information is derived from case reports. Notwithstanding, some researchers proposed an annual incidence of approximately 1 to 2 cases per 1,000 patients.[4]

We believe our patient had a tic disorder, characterized by the presence of dystonic, clonic, and phonic tics. She presented a premonitory feeling that was relieved by performing the movement, could suppress all movements with a growing inner tension, and had an explosion subsequent to suppression. Tics involving the cervical region correspond to dystonic tics, because they were slower, caused a briefly sustained abnormal posture, and had all the remaining clinical characteristics of tics. Sensory geste is usually a feature of dystonia, but it has also been occasionally described in patients with dystonic tics.[5] In this patient, tics appeared after treatment with sertraline, stopped when it was discontinued, and recurred on rechallenge. The

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fact that the patient was exposed a second time to the same drug with tics reappearance strengthens this association.

After a literature review, we identified three cases of tics associated with sertraline, none submitted to rechallenge.[6–8] Hauser and Zesiewicz[6] described a patient with Tourette's syndrome that presented tics exacerbation while being treated with sertraline, with improvement once it was stopped. Altindag et al.[7] reported motor tics in a patient treated with escitalopram that relapsed when he was started on sertraline. Ghanizadeh[8] described unilateral blinking in a female taking sertraline, which resolved upon drug withdrawal. One cannot be certain whether this last patient had tics, because she presented solely unilateral blinking and there was no description of premonitory feeling or voluntary suppression. There were few descriptions of tic onset/worsening with other SSRIs (e.g., fluoxetine[9]).

Neuronal mechanisms underlying tic disorders remain unknown. Notwithstanding, multiple lines of evidence suggest corticobasal ganglia pathway involvement, in particular, striatum disinhibition.[10] How enhanced serotonergic transmission, induced by SSRIs, influences corticobasal ganglia pathways is still not well established.

With this report, we wish to contribute to a better recognition of movement disorders induced by world-wide used SSRIs.

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Supporting Information

A video accompanying this article is available in the supporting information here.

Video. Segment 1: Here, we may observe the patient with involuntary cervical movements with a tendency to retrocollis and torticollis to the left. When asked, she is able to voluntarily suppress all movement and, after, has an explosion of head jerks with tendency to retrocollis, throat clearing sounds, and eyebrow elevation. She explains, in Portuguese, that when asked to suppress all movements, she was feeling an inner tension and a need to do it. Also, she has a sensory geste, placing her hand on the chin, which alleviates involuntary movements. Segment 2: The patient explains that she had a major improvement after stopping sertraline. Because of the patient's position, one might have the idea of a left-shoulder elevation that actually was not present. Segment 3: The patient presents head jerks, tendency to retrocollis, mild mouth opening movements, and sniffing. All movements are suppressible with a subsequent explosion of head jerks, throat clearing sounds, eyebrow elevation, and excessive blinking. Segment 4: She has no involuntary movements, explains that she is feeling very well, and voluntarily moves her head into extreme positions without any limitation.

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