



7-2007

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Naila Bhutto
Aga Khan University

Muhammad Naim Siddiqi
Aga Khan University

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Recommended Citation

Bhutto, Naila and Siddiqi, Muhammad Naim (2007) "Serotonin Syndrome," *Pakistan Journal of Neurological Sciences (PJNS)*: Vol. 2 : Iss. 2 , Article 5.

Available at: <https://ecommons.aku.edu/pjns/vol2/iss2/5>

SEROTONIN SYNDROME

Naila Bhutto and Muhammad Naim Siddiqi

Department of Psychiatry, Aga Khan University Hospital, Karachi, Pakistan

Correspondance to : Dr. Siddiqi, Assistant Prof. of Psychiatry, Aga Khan University, Karachi 74800, Pakistan. Tel. +92-21-493-0051 ; Fax +92-21-493-4294 ; email: naim.siddiqi@aku.edu

Pak J Neurol Sci 2007; 2(2):99-100

ABSTRACT

Serotonin syndrome is a potentially fatal complication of psychotropic medication that enhance serotonin neurotransmission. The risk of self-harm may increase due to the distressing symptoms of this syndrome. We report the case of a 40-year-old woman who took an overdose of a combination of two serotonin re-uptake inhibitors, venlafaxine and paroxetine.

Serotonin syndrome is an acute condition resulting from serotonin over-activity in the central nervous system, characterized by a triad of mental, autonomic and neurological symptoms.¹ The symptoms can be distressing to the point of becoming unbearable for the sufferer, making prompt diagnosis essential. Although a potentially fatal condition, most cases of serotonin syndrome have a good prognosis if the cause is effectively addressed (i.e., removal of the offending agents).²

CASE REPORT

A 40-year-old married lady presented to the psychiatry outpatient clinic for a second opinion. She had a 15-year history of recurrent depression and had taken an overdose with serious intent one week prior to admission.

Her recent episode of depression was not improving despite trials with different antidepressants in sufficient doses and duration. Her medications included venlafaxine 150mg/day and paroxetine 20 mg/day. Three days after initiation of these medications she began experiencing increased anxiety symptoms, remained very agitated and was unable to concentrate. Jerky movements were noted in the upper limbs, accompanied by a twitching sensation in the body, epigastric discomfort, and bloating of the abdomen. As her symptoms persisted without relief, she decided to take an excess dose of her prescribed medications. A nearby hospital performed gastric lavage but the symptoms persisted.

At the time of presentation to our facility, her pulse was 105/min, blood pressure 140/95 mm Hg, and respiratory rate 30/min. She was afebrile and had warm, sweaty palms. Tendon reflexes were exaggerated with bilateral myoclonus in the upper limbs. She was unable to walk due to dizziness. Her abdomen was tender in the epigastrium on deep palpation. Routine laboratory investigations from one week earlier were within normal limits. She was admitted to the psychiatry ward with a diagnosis of serotonin syndrome.

During her admission, venlafaxine and paroxetine were discontinued and supportive therapy was initiated with full recovery. On an outpatient follow-up visit one week later, her symptoms had completely resolved. After an interval of three weeks, fluoxetine was started, and her depressive symptoms showed improvement. Thereafter, the patient was lost to follow-up.

DISCUSSION

Serotonin syndrome is an important but under-recognized complication of serotonin-specific re-uptake inhibitors (SSRIs). The onset could be within hours. Almost three quarters of patients present within 24 hours of initiation or change in dose of serotonergic medications.⁶ However, our patient developed symptoms after 3 days. Left untreated, mortality can approach 11-15%.

Serotonin syndrome occurs as a result of over-stimulation of 5-HT_{1A} receptors in central grey nuclei and the medulla.^{2,3,5,6} The most common presenting features are confusion, agitation, tachycardia and myoclonus.⁷ There is no specific confirmatory test; the diagnosis is based on clinical assessment and judgment. Our patient did fulfill a set of formal clinical criteria, the Radomski diagnostic criteria, for serotonin syndrome.⁸

Combined use of two serotonergic medications is more likely to cause serotonin syndrome, as was the case in our patient. It is important to consider serotonin syndrome in the differential diagnosis of similar symptoms that may be caused by psychotropic medication, such as neuroleptic malignant syndrome and overdose of certain psychostimulants such as the recreational drug Ecstasy.

The need to be aware of this fatal complication has important implications. Clinicians must recognize that complaints of agitation and restlessness may be iatrogenic and not part of the presenting illness. Appropriate management can reduce the rising risk of self-harm, as happened with our patient. Although it is believed that overdoses of SSRIs are relatively safe compared with overdoses of tricyclic anti-depressants, in vulnerable individuals overdoses of SSRIs may be fatal.

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