

Delirium during i. v. Citalopram Treatment: A Case Report

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Abstract

This paper reports the case of a 65-year-old depressed man without somatic illnesses in whom monotherapy with i. v. citalopram induced delirium. He was admitted to a closed geriatric ward as a psychotically depressed patient with somatic and depressive delusions, and suicidal thoughts. Because he rejected all oral medications, monotherapy was initiated with 20 mg of i. v. citalopram per day. After 3 days, he became delirious and physically aggressive. This description of acute hyperkinetic delirium associated with i. v. citalopram therapy is the first one of this kind addressing side effects of i. v. citalopram.

Key words

Delirium · Depression · Selective serotonin reuptake inhibitors (SSRIs)

Introduction

SSRIs act on a chemical in the brain called serotonin. Serotonin helps regulate mood, but it also plays a role in digestion, pain, sleep, mental clarity, and other bodily functions. As a result, SSRI antidepressants cause a wide range of side effects. SSRI toxicity and other adverse drug reactions can occur with overdose, in combination with other medications, and infrequently even at therapeutic doses [1]. The correlation between the use of tricyclic antidepressants (TCA) and the appearance of side effects upon the central nervous system has been well established. In some cases, a high serum concentration of citalopram (> 600 nmol/L) in elderly patients has been associated with increased somnolence and movement difficulties but not with delirium [2]. Delirium is characterised by a disturbance of consciousness and a change in cognition developing over a short period of time [3]. Delirium associated with medication side effects or toxin exposure is diagnosed as substance-induced delirium [3]. Cases of delirium with other SSRIs have also been reported. The case of a patient with acute hyperkinetic delirium associated with a high serum total fluoxetine (fluoxetine plus desmethylfluoxetine) concentration [2] and several cases of delirium associated with fluoxetine treatment combined with the use of other medications [4,5,6] have also been reported. There is also one case report of delirium associated with the administration of paroxetine in an elderly depressive patient [7].

Case Report

A 65-year-old male patient without somatic illnesses was admitted for the first time to a closed geriatric ward as a psychotically depressed patient with somatic and depressive delusions and suicidal thoughts over the previous 14 days. He was sad, wanted

to be joyful, but was not. He had attended his friend's funeral and afterwards found he was unable to urinate; this made him very concerned for his health. He explained that he was using a urine catheter because of his health problems. He could not sleep, was in a state of doldrums and because of that he had suicidal thoughts. He also reported that he could not take drugs because he had a urine catheter and could not drink; he could not eat either because he had no intestines. He reported late insomnia. He denied drinking alcohol or having had any head injuries. He reported having been evaluated by a psychiatrist 20 years ago because of depression. His wife reported that he had been sad for 14 days and did not talk, eat or drink enough. He did not use any drugs. He used to be a professional driver, so he never drank alcohol either. A diagnosis of depression with delusions was established upon admission. No symptoms of dementia were found. Standard blood tests performed after admission have not revealed any significant findings either. The patient's daily fluid intake was monitored and an infusion of physiological saline with glucose of up to 1500 mL daily was administered. Complete blood chemistry (including measurement of electrolytes and glucose, as well as hepatic and renal function tests), CBC, CRP, thyroid function tests and ECG were evaluated. Because the patient rejected all oral drugs and food, only citalopram i. v. (one 20 mg ampoule with 0.5 mL of citalopram in 500 mL of physiological saline) was initiated. After 3 days, he suddenly became delirious and physically aggressive with psychomotor hyperactivity, disorientation and urinary incontinence. He talked about planning to destroy furniture and such. His body temperature was normal. Because he was agitated, it was not possible to take a blood sample to check his serum citalopram concentration, but the citalopram infusion was stopped immediately. There was no other medical evidence that could explain his delirium. Because of agitation, restraints had to be used. The patient was also administered one ampoule of haloperidol (5 mg/mL), 50 mg of promazine and 1200 mg of clomethiazole in 3 separate doses. Delirium resolved on the next day, when the patient became alert and oriented, and he no longer had any evidence of psychotic symptoms, hallucinations or delusions – he became euthymic. The patient was not suicidal at the time of his evaluation. In a few days, however, he became depressed again with depressive and nihilistic delusions. The dual-acting antidepressant – duloxetine – was initiated, along with an atypical antipsychotic – olanzapine, and this led to an improvement. After this, a CT scan was performed, but showed no significant findings. The patient's follow-up over the next 5 years revealed good remission without delirium, cognitive decline or depressive episodes.

Conclusions

This report describes a patient with acute hyperkinetic delirium associated with i. v. citalopram administration, which is the first description of i. v. citalopram-induced delirium. It is known that neurologic effects of TCAs, including agitation and delirium, can be explained by a CNS block of muscarinic receptors. On the other hand, SSRIs having no (or little) action on muscarinic receptors have been found to have fewer side effects on the central nervous system. Citalopram has no activity on the cholinergic system. Old age is a risk factor in terms of the side effects of SSRIs upon the central nervous system [8]. There is a report concerning movement difficulties associated with high serum con-

centrations of citalopram [2]. However, during the agitated state blood samples could not be obtained to check the citalopram serum concentration. Over 3 days, the patient in question received a total of 60 mg of i. v. citalopram. He was without prior history of delirium or any symptoms of early dementia. He did not take any medication before admission because of his delusions. He also did not receive any other medication apart from the aforementioned treatment prior to the delirium. Because of hypervigilance and agitation, the differential diagnosis included the serotonin syndrome, but this was ruled out because the patient had no fever, high blood pressure, overactive reflexes or clonus [8]. Possible high citalopram serum concentration or electrolytic disturbance with dehydration could indirectly explain the delirium that was observed in the described case. Other reasons for the described condition apart from the administration of citalopram were unlikely, because the patient was under constant control by trained staff as an inpatient in a closed ward. His vital signs were regularly monitored, his daily fluid intake by i. v. infusion was also monitored and the patient had no access to any other psychoactive substances. Intracranial lesions and endocrine dysfunction were excluded as well.

Conflict of Interest



The authors declare no conflicts of interest.

References

- 1 Cushing T-A. Selective serotonin reuptake inhibitor toxicity. eMedicine from WebMD [serial online]. Available at <http://emedicine.medscape.com/article/821737-overview>
- 2 Leinonen E, Koponen H, Lepola U. Delirium during fluoxetine treatment. A case report. *Ann Clin Psychiatry* 1993; 5: 255–257
- 3 American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4th ed., text revision. Washington, DC: American Psychiatric Association; 2000
- 4 Chisyakova J, Amos J. Delirium associated with lamotrigine and fluoxetine treatment. ajp.psychiatryonline.org.
- 5 Blum D, Maldonado J, Meyer E *et al*. Delirium following abrupt discontinuation of fluoxetine. *Clin Neurol Neurosurg* 2008; 110: 69–70
- 6 Wakeno M, Okugawa G, Takekita Y *et al*. Delirium associated with paroxetine in an elderly depressive patient: a case report. *Pharmacopsychiatry* 2007; 40: 199–200
- 7 Amir I, Dano M, Joffe A. Recurrent toxic delirium in a patient treated with SSRIs: is old age a risk factor? *Isr J Psychiatry Relat Sci* 1997; 34: 119–121
- 8 Boyer E-W, Shannon M. "The serotonin syndrome" with SSRIs: is old age a risk factor? *N Engl J Med* 2005; 352: 1112–1120

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Bibliography

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