


Hyperactive delirium and its symptomatic treatment with risperidone in a paediatric patient: a case report

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ABSTRACT

Delirium is a rapid-onset disorder with a fluctuating course and a wide range of underlying causes. It is commonly characterized by altered mental status, disturbance of consciousness and cognition, as well as disruptions in the sleep–wake cycle. Although delirium is a relatively complicated condition due to the variability of aetiological risk factors, clinical manifestations, and progress; it is generally reversible. An accurate identification of underlying causes and risk factors is therefore essential for early-stage diagnosis and positive treatment outcomes in delirium cases. Paediatric delirium can be due to various aetiologies and its clinical signs can differ from those of adults. Because of the increased prevalence of missed cases of delirium in paediatric population and relative scarcity of the publications based on Turkish cases, this case presentation can be deemed important. We present a 16-year-old boy diagnosed with Hodgkin's lymphoma who has recurrent hyperactive delirium symptoms such as disorientation, irritability, psychomotor agitation, and visual hallucinations during his chemotherapy sessions and respond to low-dose risperidone treatment.

ARTICLE HISTORY

Received 27 October 2017
Accepted 23 February 2018

KEYWORDS

Hyperactive delirium;
paediatric population;
risperidone

Introduction

Delirium is a clinical syndrome that is rooted in organic causes and is usually reversible, with a sudden onset of changes in attention and consciousness. While delirium is mostly seen due to infections, fever, drug intoxication, epilepsy, and trauma among children, it is more frequently encountered due to intoxication, head trauma, infection, and postoperative outlooks among young age groups [1]. Unlike adults, sleep disorders, irritability, agitation, affective lability, and confusion are more common in paediatric delirium clinics [2]. The underlying aetiologic cause determines the course and ending in delirium.

It is an appropriate approach to think of delirium treatment as two stages. Providing the patient with sedation, performing basic examinations for the underlying cause, and initiating the appropriate treatment are the first interventions to be undertaken [3]. The second stage contains psychosocial and pharmacological approaches. Antipsychotics and benzodiazepines are among the most commonly used drugs in delirium pharmacotherapy for symptom control. Benzodiazepines should be preferred primarily for delirium tremens and sedative/hypnotic withdrawal syndrome symptomatic treatment of delirium some of studies suggested that risperidone may be a better alternative than haloperidol [3,4]. However, there are a limited number of case reports for risperidone use in paediatric delirium cases.

Here, we report a 16-year-old boy diagnosed with Hodgkin's lymphoma who has recurrent hyperactive delirium symptoms such as disorientation, irritability, psychomotor agitation, and visual hallucinations during his chemotherapy sessions and respond to low-dose risperidone treatment.

Case presentation

A 16-year-old male patient who was hospitalized in paediatric hematology service was evaluated for requested psychiatric consultation. It was found out that the patient had been receiving chemotherapy for 4.5 months with Hodgkin's lymphoma diagnosis and monitoring at hospital during his chemotherapy sessions. According to the information received from the family and the service doctor, impaired consciousness, visual hallucinations, irritability, agitation, and harmful behaviours to the people around him were observed lasting for about an hour, especially in the early morning during the period of each hospitalization and chemotherapy sessions. Afterward, it was learned that the consciousness state was improved, and agitated and excited behaviours disappeared. In the first psychiatric evaluation, patient's mental status was normal, he was cooperative and oriented, his attention was normal, his speech was clear and understandable, his affection was stable and emotional status was euthymic, his thought

content was in accordance with his past experiences, and he did not exhibit agitated behaviours. His sleep duration was decreased due to his general health status, and chemotherapy and patient monitoring on a daily basis had been decided.

On the same day, a psychiatry consult was requested second time because of the loss of cooperation and orientation accompanied by psychomotor agitation/excitation. After his second evaluation, the patient was diagnosed with “hyperactive delirium” and 0.5 mg/day oral risperidone treatment was started in the evening and the dose was increased to 1 mg/day. During the evaluation on the second day of the treatment, delirium symptoms dramatically disappeared, and during the follow-up period the symptoms of delirium did not appear again. On the 10th day of risperidone treatment due to his good condition, risperidone treatment was discontinued.

Discussion

In this case report, we presented the response to risperidone treatment of a male patient in a paediatric age group who was receiving chemotherapy due to haematological/oncological disease and developed hyperactive delirium due to multiple organic etiology. While delirium was diagnosed in the case, it was taken into consideration that there was no past psychiatric history, acute onset of symptoms and fluctuating changes during the day, hallucinations, accompaniment of agitated and aggressive behaviours, and no organic causes to explain the symptoms in EEG and MRI findings. Delirium cases may be classified according to the dominant clinical presentation as “hyperactive form” characterized by the presence of psychomotor agitation, retardation and/or inhibition, and “mixed form” with both psychomotor agitation and retardation [1]. Haematological malignancy and the presence of chemotherapeutic agents may have been a triggering factor. Also, the decreased cognitive reserve due to past disease, and aggressive treatment may have presented a tendency to delirium in this case.

In the evaluation of the differential diagnosis, a “neurocognitive disorder due to another health condition” diagnosis based on the assumption that it is associated with another disease, such as cognitive disorders, agitation, and excitation, brain metastasis, but the fluctuating clinical course during the day, acute onset of symptoms, and no brain involvement in neuroimaging excludes this diagnosis. In the patient’s hospitalization and follow-up evaluations, the lack of anxious feelings and mood and the absence of any psychiatric symptoms during periods other than consciousness fluctuations that may occur several times a day distracted us from the diagnosis of “anxiety disorder due to general medical condition” [5].

The use of atypical antipsychotic medications, such as risperidone, olanzapine, and quetiapine, which are named as novel antipsychotics, has been reported to be effective in the pharmacological management of delirium [6]. In structured studies evaluating risperidone efficacy in terms of agitation control in adult delirium patients, it was reported that the treatment efficacy of risperidone and haloperidol is similar [7].

On the other hand, Karnik et al. reported that hyperactive delirium may originate from dopaminergic overactivation and may respond to haloperidol treatment; they stated that hypoactive and mixed-type delirium, with low or normal levels of dopamine, may occur with impairment of the cholinergic system and thus may respond better to risperidone treatment [8]. Similarly, Tufan et al. reported an improvement after low-dose risperidone treatment in an 11-year-old patient with multiple aetiology and hypoactive-mixed delirium [9].

In a retrospective study comparing the use of risperidone and haloperidol, it was stated that clinicians preferred risperidone to haloperidol in cases with hyperactive delirium [4]. Atypical antipsychotics appear to be a remarkable option in the treatment of paediatric delirium. It can be said that clinicians should pay attention to acute mental status changes in children and adults and that risperidone can be a viable treatment alternative for patients with hyperactive delirium. Studies that will be carried out on this subject will shape the clinicians’ approach to treatment for paediatric delirium cases.

Disclosure statement

No potential conflict of interest was reported by the authors.

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References

- [1] Martini DR. Delirium in the pediatric emergency department. *Clin Ped Emerg Med.* 2004;5:173–180.
- [2] Durukan I, Turkbay T, Cöngöloğlu A, et al. Delirium and its management in childhood and adolescence: a review. *Psychiatr Health Child Adolscence Mag.* 2008;15:177–186.
- [3] Francis J, Kapoor WN. Delirium in hospitalized elderly. *J Gen Intern Med.* 1990;5(1):65–79.
- [4] Schievelde JN, Leroy PL, van Os J, et al. Pediatric delirium in critical illness: phenomenology, clinical correlates and treatment response in 40 cases in the pediatric intensive care unit. *Intensive Care Med.* 2007;33:1033–1040.
- [5] American Psychiatric Association. *Diagnostic and statistical manual of mental disorders.* 5th ed. Washington (DC): American Psychiatric Association; 2013.

- [6] Buckley PF. The role of typical and atypical antipsychotic medications in the management of agitation and aggression. *J Clin Psychiatry*. 1999;60(suppl 10):52–60.
- [7] Stoddard FJ, Wilens TE. Delirium. In: J MS, H DB, editor. *Psychiatric aspects of general hospital pediatrics*. Chicago: Year Book Medical Publishers; 1995. p. 254–259.
- [8] Karnik NS, Joshi SV, Paterno C, et al. *Psychosomatics*. 2007;48(3):253–257.
- [9] Tufan AE, Durukan İ, Cöngöloğlu A, et al. Hypoactive – mixed delirium and its treatment with risperidone in a child: case presentation. *Yeni Symp*. 2010;48(2):139–142.