CASE REPORT

Olanzapine in Treatment of Childhood Disintegrative Disorder: A Case Study

Farnia V1, Valinia K2

1Behavioral Sciences Research Center, Kermanshah University of Medical Sciences, Kermanshah, Iran
2Kermanshah University of Medical Sciences, Kermanshah, Iran

Abstract

Childhood disintegrative disorder (CDD) is a rare pervasive developmental disorder (PDD) defined by a period of normal development for at least 2 years followed by gradual loss of previously acquired skills with regression of developmental and behavioral functioning. We report a child with CDD showing significant improvement after treatment with Olanzapine.

Keywords: Childhood Disintegrative Disorder (CDD), Pervasive Developmental Disorder (PDD), Olanzapine

Introduction

Childhood disintegrative disorder (CDD) is one of the Pervasive Developmental Disorders (PDD)1. CDD is a rare disorder with a reported prevalence of 0.112 to 0.64 per 10,000 although these figures increased in surveys conducted in the last few years3,4. The essential feature of CDD is a distinct regression of developmental and behavioral functioning following a period of apparently normal development for at least 2 years defined in reference to age-appropriate communication, relationships, interactions, and behavioral criteria. The DSM-IV-TR (Diagnostic and Statistical Manual of Mental Disorders, 4th Ed., Text Revised) indicates that the degeneration of mental and physical functioning must include a clinically significant deterioration of formerly acquired skills5. The prognosis is usually very poor and most individuals are left with severe developmental delay especially in language and social skills5,6.

There is no specific pharmacological treatment for the core deficits of this disorder7. Atypical antipsychotics have been reported to be useful for hyperactivity, aggression, and attention deficit in PDD8,9. Risperidone is the best studied medication in treatment of behavioral problems in PDD10.

We hereunder report a child with CDD undergoing treatment with different antipsychotic medications to control behavioral problems who finally responded to Olanzapine (an atypical antipsychotic).

Case Study

The patient was an 8-year-old boy presented with restlessness, irritability, self biting, attention deficit, language regression,
stereotypic behavior, and echolalia at first visit. He was inattentive and uncooperative in interviews. No delusion or hallucination was detected. He had a normal birth history and early milestones with no family history of psychiatric disorder. His cognitive, motor and language development was normal. The disorder started, at the age of 4, with behavioral change such as restlessness, irritability, anxiety, inappropriate laughing and crying, insomnia, and loss of appetite.

His parents reported that gradually he showed inattention, social isolation, language impairment, self talking, stereotypic behavior, enuresis, encopresis and self biting. In the early phase of the disorder, he was visited on October, 2009 by a psychiatrist and treated by Ritaline and Thioridazine for one month and then left the treatment until we visited him on May, 2011. In first visit neurological examination was normal. Brain CT scan showed decrease in white matter density. EEG During the awake state showed some spike discharges without clinical presentation of seizure. Laboratory findings revealed mild anemia (Hb=10.6mg/dl) with high serum level of Glutamine, Glycine, and Ornithine, but thyroid, liver and renal function tests were normal. Also, serum ammoniac, copper, ceruloplasmin and 24- hour urine copper were normal. Karyotype was normal (46XY), as well.

He underwent treatment with Olanzapine 5mg daily, and after one month Imipramine was started for the treatment of his enuresis 25mg daily and continued for two months later. After a three-month follow-up, some symptoms such as hyperactivity, enuresis, stereotypic behavior, self talking and restlessness were controlled. In order to treat other symptoms, Olanzapine was changed to Risperidone 1mg daily and Imipramine was continued. This treatment regimen continued for three months. Apart from other symptoms, inattention, hyperactivity, self talking, enuresis, self biting, and restlessness were all controlled. In the third treatment course, we started Olanzapine 5mg daily again and followed him up with 10mg after one month, while other medications remained unchanged. After the three-month follow-up, the patient showed a significant improvement in his symptoms. Hyperactivity, restlessness, self talking, encopresis, enuresis, stereotypic behavior, and self biting decreased significantly while the social interaction and attention improved.

**Discussion**

We reported illness course and the treatment strategies of one case of CDD in this paper. Early presentation of disorder like irritability, anxiety and progression to severe symptoms including loss of social interaction, inattention, regression in previously acquired cognitive, motor restlessness, and language skills were congruent with literature\(^{11,12}\). Also, our study results are consistent with the findings of the previous literature indicating that there is an increased frequency of both abnormal EEG readings and seizure disorders in individuals diagnosed with CDD as compared to the general population\(^{13,14}\).

There are no fixed guidelines or treatment strategies for management of CDD. A multidisciplinary approach is often required. Seizures which are common co-occurrence in CDD are treated with anticonvulsant medications\(^{14,15}\). Atypical antipsychotics are suggested to be useful for hyperactivity, aggressive and self injury behaviors in patients with PDD\(^{11,17}\).
Our study results showed that Olanzapine is more effective than Aripiprazole and Risperidone in treatment of CDD. The recommended Olanzapine dosage is 10mg daily leading to significant improvement in overall symptoms of CDD including motor restlessness, irritability, hyperactivity, social interaction, language regression, self biting, stereotypic behavior, enuresis, and enuresis. Two previous studies also found some improvement in CDD patients when treated with Olanzapine.

We conclude that children with behavioral problems, motor and language regression resembling CDD may benefit from Olanzapine treatment. Further studies with greater sample size and control group may determine the role of Olanzapine in treatment of this disorder.

References


**Corresponding Author**
Vahid Farnia, 
Assistant Professor 
Behavioral Sciences Research Center 
Kermanshah University of Medical Sciences 
Kermanshah, Iran 
Tel: +98-831-826700 
Fax: +98- 831-8264163 
Email: vfarnia@kums.ac.ir