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Case Report

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Very Early-onset Schizophrenia With A Complicated Course

Farzan Vahedifard[1]*; Arghavan Shafiee-Aghdam[2]; Atieh Sadeghniiat-Haghighi[3]

[1]Department of Diagnostic Radiology and Nuclear Medicine, Rush Medical College, USA.

[2]Department of Psychiatry, Razi Psychiatric Hospital, University of Social Welfare and Rehabilitation Sciences, Iran.

[3]Department of Psychiatry, Roozbeh Hospital, Tehran University of Medical Science, Iran.

***Corresponding Author: Farzan Vahedifard**

Department of Diagnostic Radiology and Nuclear Medicine, Rush Medical College, USA.

Email: Farzanvahedi@yahoo.com

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Abstract

Introduction: Psychosis is the third most debilitating disorder among adolescents worldwide. Very early-onset schizophrenia (VEOS), before age 13, is extremely rare, with a frequency of 1/10,000. Its clinical appearance, course, and outcome are distinct from early-onset (years 13-18) and adult-onset (ages 18 and up) schizophrenia. It is linked to poor treatment response, a worse prognosis, and frequent hospitalizations. Early detection and management have been demonstrated to improve overall function.

Case report: This case presentation introduces very early-onset schizophrenia in a 12-year-old Persian male, with a complicated course. The patient had a problem with accessing to new-generation of anti-psychotics. This limitation and comorbidities of obesity and diabetes complicate treatment management.

Conclusion: Drug complications and drug side effects exacerbated the patient's schizophrenia due to the patient's limited access to new generation drugs. Public health advice to prevent obesity and diabetes can be helpful in patients who have more difficult access to a new generation of psychiatric medication.

Introduction

Schizophrenia is a chronic illness marked by cognitive, perceptual, and affective distortions [1,2]. With a lifetime frequency of four instances per 1,000 people, the disease has a tremendous global impact [3,4]. Typically, schizophrenia manifests after the age of 13 years. The rare variant of the disease, Very Early-Onset Schizophrenia (VEOS); prevalence estimated at 1 per 10,000 population) affects children younger than 13 years old [5,6]. EOS is linked to increased familial susceptibility and a poorer prognosis.

The majority of children with VEOS appear to have experienced more severe and earlier-onset premorbid problems. Some patients were born with significant developmental deficits. Similar to the progression of EOS, VEOS has a prodromal stage, although it is heterogeneous and may begin years before diagnosis. VEOS may be preceded by new-onset motor delay (in 50% of cases), speech delay (in 50% of cases), linguistic abnormalities (in 87% of cases), and social abnormalities (in 87% of cases) of otherwise unknown cause [5].

The disease seems more subtle than EOS, making early detection challenging. The average age of onset is 6.9 years, however diagnosis is at 9.5 [3]. Boys have more VEOS. Early children prodromal symptoms include poor school performance, social withdrawal, disorganized or aberrant conduct, diminished ability to execute regular activities, poor self-care and hygiene, and aggressive or hostile behavior.

Treatment for VEOS is multidisciplinary, with antipsychotic medicine serving as the mainstay. Education, support, treatment of behavioral and social skills, and cognitive rehabilitation with the involvement of all family members and school partners are all necessary. The use of antipsychotic medicine in young children is controversial, as the risk of side effects is increased.

The current guideline is to utilize atypical antipsychotics (see the Treatment section) with careful monitoring of side effects [7].

In VEOS, psychotic symptoms are largely auditory hallucinations (80%-100% of patients), while other perceptual abnormalities are rare. Illusions are less complicated and tend to be about monsters or "evil people," but religious, somatic, and grandiose delusions can occur. Over time, thought disorder worsens. Flat or strange affect is common.

When providing antipsychotic drugs to younger patients, greater caution is required because they are more likely to experience negative effects [8]. Second-generation antipsychotics (SGAs) are often the first treatment for children and adolescents, but first-generation antipsychotics (FGAs) should be avoided because of the significant risk of extrapyramidal side effects [9]. Considering this, people with schizophrenia continue to struggle with adherence to oral antipsychotic drugs; administering medication as a long-acting injectable (LAI) can assist overcome this problem, lowering the risk of relapse and rehospitalization [10].

This case presentation introduces very early-onset schizophrenia with a complicated course. The patient had a problem with accessing to new-generation of anti-psychotics. This limitation and comorbidities of obersity and diabetes make the treatment management very complicated.

Case presentation

Following the exacerbation of pre-existing psychotic symptoms, his general practitioner referred a 12-year-old persian male patient for the first time to the Child & Adolescent Mental Health Services in Zanjan, Iran. The patient exhibited acute fear of everyone around him and social isolation, self-talking, irritable mood, and violence, which had begun about one to two years before. Psychologically, he displayed all of the symptoms of paranoid ideation. The only proof of this was a visceral mistrust and lack of trust in anyone regarding food. His auditory, visual, and tactile hallucinations included people screaming disparaging things at him and crying about it, seeing scary faces in others, and being attacked by paranormal monsters. It has also been reported that the child has complained of being burned and physically tormented by those monsters on multiple occasions.

The dreadful environment established for the boy prohibited him from continuing his life, and his fear and anxiety had reached the point that he intended to commit himself by jumping from the house's roof before seeking a doctor. He could not communicate, and the only person who had a relative relationship with him was his mother.

The patient lacked a clear family background, and only his mother described strong superstitious beliefs and links with the genie in his grandpa. His mother gave birth to him at 36 when his father was in his sixties. Because of his illness and his family's socioeconomic circumstances, he did not attend school and began to work on the farm at a young age, he never had any close friends; nonetheless, during the last year, he has been unable to accomplish his job and has avoided society. His social skills had deteriorated dramatically in the previous year, and even more so in the weeks leading to his hospitalization.

The patient was promptly provided oral risperidone at a dosage of 1 mg twice daily, which was gradually increased to 4 mg per day. Due to the sheer complications and pharmacological side effects, the patient had severe negative symptoms, therefore, the prescription was changed to olanzapine, starting with a 5 mg divided dosage and gradually increasing to 12.5 mg per day. The patient had a moderate reaction to the treatment, despite only being somewhat obedient. LAIs were not explored due to the family's socioeconomic and financial concerns. The patient and his mother both reported an initial positive reaction to the medicine, significantly reducing unpleasant psychotic symptoms. However, six months after starting the drug, the patient had gained more than 10 kg.

Initially, he had been referred by his medical practitioner to adjust his prescription if possible. The patient was admitted again and prescribed aripiprazole 10 mg and reduced the olanzapine to 5 mg, which caused the patient to become aggressive; however, due to the country's situation, access to other SGAs was not possible, so the medication was changed back to olanzapine and diet, physical activity, and routine blood tests were recommended.

Discussion

The typical time between the onset of symptoms and a diagnosis of very early-onset schizophrenia is two years, driving many doctors to be cautious about making a diagnosis. Given that 8% of children experience non-pathological hallucinations, the decision to assign hallucinations to a pathological process poses a problem for diagnosis. Particular emphasis must be paid to the retention of social interactions, higher premorbid functioning, and environment-specific symptoms while making these distinctions [5,11].

Even once a diagnosis has been determined, the use of antipsychotics in children is controversial due to a lack of research on their safety and efficacy. In general, antipsychotics are advised for severe cases, and there is evidence that early beginning improves results, particularly the control of positive symptoms. The current case demonstrates that subtle clinical symptoms, such as developmental delay, stereotypy, scholastic deterioration, and possibly hallucinations, can be precursors to the onset of very early-onset schizophrenia.

The current case report describes an adolescent with schizophrenia who developed negative symptoms such as mutism and food avoidance after using SGAs, which could have resulted in poor compliance. Unlike Mirza's case [2], this patient did not have a history of drug abuse and had the disadvantage of low socioeconomic status, so oral therapy was the only option. As a result, despite the weight gain, olanzapine medication was maintained [2]. According to P. Hjorth's comprehensive analysis, different techniques for losing weight can be more productive, and physical exercise is the most effective solution [12].

VEOS drug therapy: There are few evidence-based investigations of antipsychotic (typical and atypical) efficacy in EOS, partly because the group is rare and partly because treatment trials in very unwell children are challenging [13]. Although first-generation antipsychotics (FGAs) enhance positive symptomatology, they cause extrapyramidal side effects, tardive dyskinesia, and prolactin increases. Because they are less likely

to develop extrapyramidal symptoms and tardive dyskinesia, second-generation antipsychotics (SGA) are the cornerstone of therapy for EOS [5]. Cochrane found six clinical trials with 256 children and adolescents to explore antipsychotic treatment for EOS [14]. Clozapine, risperidone, and olanzapine were utilized as SGA. The scientists found limited evidence to support one antipsychotic over another for EOS. SGAs and FGAs had similar effects on positive and negative symptoms, therefore, neither was superior. A government-funded, 8-week, randomized, double-blind experiment on EOS called "Treatment of Early-Onset Schizophrenia Spectrum" (TEOSS) indicated that SGAs, risperidone, and olanzapine were not superior to FGA, molindone in symptom improvement. Risperidone and olanzapine cause weight gain (risperidone also raises prolactin levels) compared to molindone, which causes akathisia [15].

Clozapine, the standard gold medication for schizophrenia, has a better clinical response profile than haloperidol and olanzapine in treatment-refractory EOS [16]. Clozapine is the last resort due to its side effects on the hematopoietic system (agranulocytosis), cardiovascular system (myocarditis), central nervous system (seizures, akinesia, myoclonic jerks), and liver function, as well as severe movement disorders, hypersalivation, hyperglycemia, diabetes, and weight gain [17].

There is an ongoing controversy concerning the efficacy of atypical drugs accounting for long-term adverse effects. Larger randomized control trials (RCTs) are needed to identify the best existing antipsychotic agents and provide a foundation for innovative drug discovery.

Psychotherapy for VEOS: Psychosocial therapies (CBT, family intervention, social skills training, and cognitive remediation) are helpful adjuncts to pharmaceutical interventions in adults with schizophrenia [18,19]. CBT addresses dysfunctional beliefs, coping techniques, cognitive "tuning," and behavior modification by linking and re-evaluating ideas and feelings concerning clinical symptoms, which improves patients' mental states. Cognitive enhancement therapy improves neurocognitive functioning in EOS and schizoaffective disorder outpatients [20]. Indeed, family therapy, psycho-education, and social skills training have improved schizophrenia patients' clinical symptoms (Petersen et al., 2005). A new multicenter RCT investigated the impact of CBT, group skills training, cognitive remediation therapy, and multifamily psycho-education on preventing psychosis in young persons with early beginning prodromal psychosis [21]. Integrated psychological treatments delayed psychosis onset over a 24-month follow-up period [21]. These results imply that psychotherapy therapies may be important for reducing psychotic relapse, re-admission, and medication compliance. Systematic validation of such measures is necessary.

Overall, olanzapine is an acceptable treatment for teenagers despite the side effects, the most essential of which is that it has enough power to manage the patient's symptoms and is also available to the patient and easy to prepare and consume for the family.

Drug use has been a serious issue with this patient. Furthermore, depending on the patient's family circumstances and the level of their desired performance in the patient, regulating the symptoms to the point of being able to sustain themselves during the day and complete personal chores relieves the parents of a considerable burden [22].

Conclusion

This instance highlights the significance of Schizophrenic patients, and their caretakers should be made aware of drug reactions and side effects. This case illustrates the importance of patient and family education regarding the potential side effects of antipsychotics.

Psychosis is the third most debilitating disorder among adolescents worldwide. Evaluation of children presenting with a psychotic episode necessitates knowledge of various causes and the criteria used to separate primary psychotic disorders from other psychiatric and nonpsychiatric illnesses and pharmacological effects.

Drug complications and side effects exacerbated the patient's schizophrenia due to the patient's limited access to new-generation drugs. Public health advice to prevent obesity and diabetes can be helpful in patients who have more difficult access to a new generation of psychiatric medication.

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