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Abnormal Movements Resembling Tic Disorder in a Patient with Schizophrenia: A Case Report

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Abstract

Introduction: Since many movement disorders are associated with schizophrenia, it is important to distinguish various motor manifestations of the disease itself from associated abnormal movements.

Case Presentation: We present a 35-year-old single man with schizophrenia who was admitted for seizure-like tics. The disease started 7 years earlier with psychotic manifestations, including persecutory delusion, negative symptoms, and impaired function. About a year ago, movements in the limbs, abdomen, and spine (similar to those seen in tonic-clonic seizures) were added to the patient's symptoms, lasting for a few seconds to a few minutes. After some time, these movements were accompanied by expressing words and phrases that had sexual content. Due to the exacerbation of these attacks, the patient was admitted to the hospital. He was unable to explain the cause of these movements, and differential diagnoses included stereotype, extrapyramidal effects of antipsychotic drugs (particularly tardive dyskinesia), and temporal lobe epilepsy. However, the patient had no history of epilepsy. Urine screening for illegal substances, electroencephalography (EEG), brain magnetic resonance imaging (MRI), and neurological counseling were all normal. The adverse effects of medications were ruled out because the patient had taken antipsychotics very irregularly and in low doses. A short time after starting 4 mg of oral risperidone (as the main treatment), the patient showed better cooperation and was able to describe his symptoms in more detail. He explained that a stranger or a copy of himself occasionally compelled him to do the movements, and if he refused to do it, he would be punished by them. Ten days after continuing treatment and starting weekly flupentixol decanoate, the motor symptoms improved significantly, and the patient was discharged after 3 weeks.

Conclusions: This case presentation emphasizes the importance of accurate clarification of the nature of signs and symptoms in patients with mental disorders, which seems to be crucial in making a diagnosis and appropriate treatment.

Keywords: Delusion of Control, Movement Disorder, Schizophrenia

1. Introduction

Movement disorders are among the most common symptoms of schizophrenia. According to a study, 66% of patients with the first episode of schizophrenia, 59% of admitted patients, and 80% of patients who were under treatment for a long time had at least 1 movement symptom (1). The addition of motor symptoms may result in further functional impairments in patients with schizophrenia, complicating the diagnosis and treatment. Moreover, they can easily dominate the main symptoms of schizophrenia and deteriorate their insight about the disease, social isolation, and lack of cooperation (2). Therefore, identifying the exact nature and differentiating the various motor manifestations of schizophrenia from abnormal movements have always been a concern for many clinicians.

The findings of functional neuroimaging studies have shown that the high incidence of movement symptoms in schizophrenia is related to the involvement of the same communication networks in the cerebral cortex and basal ganglia (1). Tics, various gestures, rigidity, grimacing, staring, and other movement symptoms may be misdiagnosed as Tourette syndrome, tic disorder, catatonia, drug-induced parkinsonism, malignant neuroleptic syndrome, and dyskinesia (3). Accompanying movement symptoms in schizophrenia, which cannot be considered a separate syndrome, are also called neurological soft signs (NSS) (4).

Conversely, Tourette syndrome, tics, and mild neurological symptoms may interfere with the typical manifestations of schizophrenia. For example, in the course of schizophrenia, a patient explained passivity sensations to describe the symptoms of accompanying Tourette syndrome and attributed them to the influence of strangers on his body (5).

Tourette syndrome is a neurobiological disorder characterized by a combination of several motor symptoms and one or more vocal tics over a period of at least 1 year (5). Tics are also stereotypical and specific movements that are associated with voluntary movements, have an acute or chronic timeline, and are associated with sensory urge (6). Mild neurological symptoms also refer to subtle neurological abnormalities that include defects in sensory integration, motor coordination, and complex sequences of motor functions and are more common in patients with schizophrenia than in healthy individuals. These symptoms are not restricted to defects in a specific area of the brain and are not a definite neurological syndrome (7). Studies have shown that the cooccurrence of NSS with schizophrenia may result in remarkable changes in the manifestation of the disorder, particularly in the first-rank symptoms of schizophrenia (8).

First-rank Schneiderian symptoms, introduced by the German psychiatrist Kurt Schneider, include audible thoughts, arguing or commenting voices, delusional perception, passivity delusion, made impulse, made volition, made effect, thought withdrawal, thought insertion, and thought broadcasting. These symptoms are no longer of particular importance for the diagnosis of schizophrenia in the new DSM-5 classification (8) but are still the focus of clinicians because of their unique features, which can be mistaken with other disorders.

Clinically, it is of particular importance to pay attention to the symptoms of comorbid neurological disease in schizophrenia to differentiate motor symptoms of schizophrenia from those comorbidities; thus, with a correct diagnosis, unnecessary diagnostic tests would be avoided, and the patients' time and money would be saved.

Herein, we present a patient who had specific motor symptoms that were merely caused by delusion of control in the context of schizophrenia and an uncommon finding. The purpose of presenting this clinical case was to describe the exact symptomatology of a rare motor symptom in the context of delusion of control that may be misidentified with distinct movement disorders, such as tics or Tourette syndrome.

2. Case Presentation

A 35-year-old single man, who has been diagnosed with schizophrenia for the past 7 years, works as a supervising engineer, and lives with his parents, was referred to a psychiatric hospital with his consent because of seizure-like jerky movements for the first time. His family had no history of psychiatric or neurological disorder, and he reported no history of medical illness or substance use other than smoking and occasional tramadol.

Symptoms of schizophrenia began 7 years ago in the form of irritability, aggression, delusions of persecution and reference, negative symptoms, and impaired function while the patient was passing the final semester of his master's degree in engineering. At that time, since the patient avoided hospitalization, treatment was started on an outpatient basis with risperidone and reached a final dose of 4 mg daily. With this treatment, the symptoms of the disease were controlled, and the patient returned to the university. However, it did not take long for the disease to enter its recurrent-healing phases because of irregular drug consumption and sometimes arbitrary discontinuation of treatment, and his condition never completely subsided. Occasional repetitive, stereotyped movements emerged while resembling tonic-clonic movements of a seizure attack (particularly in the limbs, abdomen, and spine) and lasted up to a few minutes without actual loss of consciousness approximately 1 year before current admission.

The frequency of these movements, which were initially limited to momentary tics, increased over time to such an extent that it prevented the patient from being present at work. Attacks occurred while standing or lying down. As time passed and the symptoms worsened, the patient repeated short, repetitive sentences under his breath during the above movements, which often had sexual content. Although the onset of schizophrenia led to a decline in the patient's career and academic ability and periods of diminished participation in social activities, the onset of voice-movement demonstrations was noted that eventually led to his complete isolation from work and university.

With the exacerbation of these attacks, the patient was referred to a psychiatrist and accepted to be admitted. Upon admission, he was unable to explain the cause of these movements, though the history taken from the family was more consistent with generalized tonic-clonic seizures. By direct observation, however, the accompaniment of jerky movements with perplexity or drowsiness raised the suspicion of the patient's separation from the environment and post-ictal-like manifestations;

however, because there was no history of falls, there never seemed to be a real decline in consciousness. Ultimately, the diagnosis tended to be tics with the onset of vocal symptoms. Other differential diagnoses included stereotypy, extrapyramidal effects of antipsychotic drugs (especially tardive dyskinesia), and temporal lobe epilepsy.

During admission, the patient was isolated. There was self-talking and self-laughing, as well as first-rank Schneider symptoms (such as third-person auditory hallucinations and delusions of control). The patient believed that a stranger and perhaps a copy of himself (in ways he was unaware of) controlled the force exerted on him from outside of his body. The patient also had symptoms of obsessive-compulsive disorder (the contamination-cleaning type) that coerced him to spend long hours in the bathroom and not go to the bathroom for weeks. This obsession had nothing to do with the content of the patient's delusions and hallucinations.

No history of seizures or decreased level of consciousness was evident (except for 1 generalized tonic-clonic seizure following a tramadol overdose 10 years ago). Electroencephalography (EEG) performed at that time was also normal. The history of recent substance or drug abuse was negative. In addition, there was no history of tics in childhood and adolescence, and the patient's motor manifestations could not be attributed to any of the extrapyramidal effects of antipsychotic agents. The history of drug overdose and choreiform movements or other manifestations of Huntington or Wilson disease were all negative.

Primary evaluations after admission (including laboratory tests, EEG, and brain imaging) did not confirm any remarkable abnormal findings. Thereafter, oral risperidone (4 mg/day), clonazepam (1 mg/day), and citalopram (10 mg/day) were commenced.

Gradually, the patient showed more cooperation and attributed the unusual movements to being remotely enforced by a stranger or a copy of himself. These persons coerced him to do the seizure-like movements, and he felt completely passive against them. Two weeks after antipsychotic treatments, the motor symptoms improved remarkably, and the patient was discharged from the hospital after 3 weeks of hospitalization with an improvement of psychotic symptoms and motor symptoms that were only caused by delusion of control. At the time of discharge, the patient showed acceptable treatment adherence and had no specific drug side effects. His obsessive-compulsive symptoms decreased to a satisfactory level, and this was the longest period without abnormal motor symptoms since its onset in the patient.

3. Discussion

In this case, the patient suffered from a belief that his actions and movements were influenced or controlled by an external agent (his boss). Indeed, the boss enrolled a distant power into the patient and impelled him to conduct movements that resembled a tic disorder.

These tonic-clonic-like movements occurred while consciousness was saved. Electroencephalography and brain magnetic resonance imaging (MRI) findings and neurological counseling were reported to be normal. There were no warnings before the movements, and the history of seizures was negative. Although the cooccurrence of Tourette syndrome and schizophrenia is rarely reported, similarities suggest that there may be a relationship between these diagnoses. Therefore, whenever a patient presents with either of these diagnoses, evaluation should include the other disorders (5). However, the patient did not have a history of tic disorder in childhood or adolescence. The movements did not have a stereotypical shape, and as mentioned in the case of tics, the patient did not perceive any ability to control them. The movements also lacked a sense of urgency and sensory urge. In fact, the patient was not affected by tic disorder; rather, his abnormal movements were the manifestations of one of the first-rank Schneiderian symptoms and disappeared following antipsychotic treatments.

In this patient, by taking an accurate history and extracting the subtle points of the history, the final diagnosis based on motor manifestations in the field of delusion of control was obtained; thus, additional treatments were a waste of time and expense.

This study, however, is subject to a main limitation, as all of the findings are based on clinical observation and interviews with the patient and his family members. Hence, interpretation of findings was merely performed based on the clinician's judgment, and there was no objective measure to confirm the final conclusions as is seen in laboratory or imaging assessments. Future research with a larger sample size and rich methodologies could investigate the nature and prevalence of such unusual signs and symptoms in patients with schizophrenia.

3.1. Conclusions

In this case of schizophrenia, abnormal motor manifestations occurred only in the context of delusion of control. The study of this case shows the importance of obtaining an accurate history of the content of the patient's delusions and hallucinations to decide upon the

most useful treatment and avoid additional diagnostic and therapeutic interventions.

Footnotes

Authors' Contribution: Sara Kamali drafted the manuscript and participated in collecting and interpreting the clinical data. Azad Maroufi revised the manuscript and collected and interpreted the clinical data. All authors read and approved the final manuscript.

Conflict of Interests: The authors declare that the corresponding author of the article is a member of the reviewers of the journal but will not participate in the reviewing process of this article.

Data Reproducibility: The data presented in this study are uploaded during submission as a supplementary file and are openly available for readers upon request.

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