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A Case Report on Antipsychotic-Induced Rabbit Syndrome

Shabanam N. Sheikh

Nursing Tutor, Shalinitai Meghe College of Nursing,Datta Meghe Institute of Higher Education & Research, Wardha, MH, India
Email: *shabnamsayyad091[at]gmail.com*
Mobile no.9730796738

Abstract: ***Background: Antipsychotics can cause rhythmic mouth and lip motions that resemble a rabbit chewing, which is known as rabbit syndrome (RS). The tongue is not involved in the action, which consists of a vertical motion solely at a frequency of roughly 5 Hz. The risk of RS owing to exposure to more recent atypical antipsychotics is unclear, despite the fact that long-term exposure to conventional antipsychotics has been conclusively linked to the disease. Case Presentation: A 45-year-old female patient receiving clozapine medication for paranoid schizophrenia for the past 23 years and Rabbit Syndrome since the last nine months. (Long-term exposure to typical antipsychotics has clearly been associated with RS, but little is known of the risk of RS due to exposure to newer atypical antipsychotics.) He was admitted two months ago to the "Acharya Vinoba Bhave Rural Hospital Sawangi (M), Wardha," Maharashtra, with the primary complaints of rigidity, bradykinesia, and facial tremor, fine quick pouting and puckering of the lips. Rigidity, bradykinesia, and facial tremor were discovered during a physical examination. The patient had completed a number of tests, including a complete blood count, which revealed a lowered Hb%. The nursing care included monitoring all vital signs, checking and recording intake and output, and giving out anticholinergic medications in accordance with prescriptions. Conclusion: The patient was admitted to AVBRH's mental ward with the primary complaint of immediate therapy was initiated by the psychiatric team, and the patient's condition is presently satisfactory.***

Keywords: Rabbit syndrome, Antipsychotics, Involuntary movements, Chewing movements

1. Introduction

Antipsychotic medication's extrapyramidal side effect known as "rabbit syndrome" is characterized by perioral tremors that happen at a frequency of roughly 5 Hz. Rabbit syndrome is characterized by involuntary, little, rhythmic mouth movements that move vertically without the tongue's assistance and resemble the chewing motions of a rabbit. (1) It is more common with high potency medications like fluphenazine, haloperidol, and pimozide, and is commonly seen after years of pharmacotherapy. Low doses of risperidone, thioridazine, clozapine, olanzapine, aripiprazole, and similar medications have low incidences as well. The condition known as rabbit syndrome may be treated with anticholinergic drugs. (2)It usually goes away within a few days of treatment, but it could return if anticholinergic therapy is discontinued. Change the patient's medication to an atypical antipsychotic with strong anticholinergic effects is another therapy option. Rabbit syndrome only affects the buccal area, and when it does, it causes an extremely stereotypical involuntary movement. The substantia nigra pars reticulata, which is also linked in oral dyskinesia, is brought to light right away as a result, drawing attention to the basal ganglia. The upcoming years, continued neurophysiological and pharmaceutical study of the basal ganglia will be crucial for improving understanding and treating this conditionIt has been observed that second generation antipsychotic drugs such risperidone, olanzapine, amisulpiride, aripiprazole, and clozapine can occasionally cause rabbit syndrome.(3)

Case History

This case report was collected in a mental health ward. Acharya Vinobha Bhave Rural Hospital offers mental health treatments to everyone in need in Sawangi (Meghe), Wardha, where there is a paucity of mental health facilities for the rural population and impoverished population.

Patient information

A 45-year-old female patient receiving clozapine medication for paranoid schizophrenia for the past 23 years and Rabbit Syndrome since the last nine months. (Long-term exposure to typical antipsychotics has clearly been associated with RS, but little is known of the risk of RS due to exposure to newer atypical antipsychotics.)he was admitted two months ago to the "Acharya Vinoba Bhave Rural Hospital Sawangi (M), Wardha," Maharashtra, with the primary complaints of rigidity, bradykinesia, and facial tremor, fine quick pouting and puckering of the lips.

Perpetuating factors

Marriage problems cause psychosocial stress, which aggravates or prolongs the illness. The investigation plan involved gathering background information, assessing mental state, and doing CBC red blood cell counts (4.2 million/cumm) and total white blood cell counts (3.3), as well as measuring hemoglobin levels (11gm%). The treatment strategy is based on an intervention and comprises somatic therapy (ECT), cognitive behavior therapy (CBT), and the antipsychotics olanzapine and Lorazepam.

Precipitating factors

According to family lore, Patient is the only daughter and another sibling of an older brother for their parents. Being the only daughter, her parents had a strong emotional connection to her. However, she started displaying paranoid schizophrenia signs after getting married and was put on a regular treatment schedule. Another reason she began to distrust her spouse was when one of her relatives in the year 2018 revealed that he was having extramarital relationships with someone.

Past psychiatric history
She has sought treatment from a psychiatrist ever since the first episode in 2000. Since then, whenever she takes medication, she develops a suspicion of her husband and even of her relatives. She had muscle spasms, neck stiffness, and headaches while using antipsychotics for a number of years, and after being taken to a psychiatrist, she was diagnosed with having extrapyramidal syndrome.

Signs and symptoms were:
This patient had the classic symptoms of bradykinesia, including shaking legs, trembling hands, protruding tongue, stretched neck, and ocular spasms or blinking. repetitive, unconscious facial expressions such grimacing, lip-smacking, puffing of the cheeks, and tongue twisting. Shrugging, jerky limb motions or changes in gait stiff muscles, fever, fatigue, and confusion.

Timeline
Nursing care and psychopharmacological treatments were given to the patient during his three-week stay. A weekly in the psychiatric OPD, a follow-up meeting has been held, since the patient's successful hospital discharge.

Diagnostic Assessment

Physical examination: Physical examination reveals an unsteady stride, unusual facial motions, smacking lips, and strange neck movements.

Mental status examination: Unusual behaviours, unsuitable emotions, and incorrect thoughts Obsessive-compulsive disorder, perceptional anomalies, attention, concentration, and recent and distant memory, intelligence, and judgement were all found to be affected and degraded when Thanatophobia and Pistanthrophobia were present. The patient had anorexia and a disrupted sleep schedule.

Table1: Significant Clinical Findings

Investigation	Patient value	Normal values	Inference
Renalfunctiontest			
S. Sodium	138mmol/L	135-145mmol/L	Normal
S.Creatinine	0.5mg/dL	0.7-1.4mg/dL	Decreased
Urea	17mg/dL	12-20mg/dL	Normal
Potassium	4.3mmol/dL	3.5-5.5mmol/dL	Normal
AlkalinePhosphatase	85U/L	10-30U/L	Increased
HB%	11.2gm%	13-15g%	Decreased
MCV	78cub.micron	80-90cub.micron	Decreased
MCH	25.8picogm	26.5-33.5picogm	Decreased
HCT	36.3%	40-50%	Decreased
Monocytes	1.5%	4-10%	Decreased
Granulocytes	72%	40-60%	Increased
RBS	86mg%	70-150mg%	Normal

Data extraction
Information culled from the PUB MED, Medline, and Cochrane databases.

Results and follow-up
There have been regular follow-ups, weekly trips to the psychiatric OPD by the patient, and no adverse effects have been reported.

Primary Outcome
Anticholinergic medications and other psychosocial interventions were used in conjunction to reduce the evidence of extrapyramidal symptoms.

Secondary outcome
The harmful effects of a freshly prescribed antipsychotic medicine can be avoided with routine

2. Discussion

Olanzapine causes a larger spike in blood glucose than risperidone and amisulpride, but both medications are similarly effective. When compared to olanzapine, risperidone, and Ziprasidon, their impact on the heart, there is no difference or Rabbit syndrome. (4) Aripiprazole is a common antipsychotic that is safer for children with schizophrenia since it causes fewer extrapyramidal symptoms, especially akathisia. Evidence from RCT shows that it produces hyperprolactinemia, it also produces nausea and dizziness, with a reduced prevalence of sinus tachycardia and blurred vision. Zuclopenthixol dihydrochloride may cause greater movement abnormalities than Clozapine, Risperidone, or perphenazine, other comparable drugs, or placebo, according to studies that compared it to oral placebo. (5) According to one of the animal experiments, rats were given haloperidol orally at a dose of 0.2 mg/rat/day for 5 weeks. After the first two weeks, the rats started chewing slowly, but the therapy was continued for the full five weeks. After 3 weeks, there was an improvement in motor coordination, and after 5 weeks, there was a tolerance for the motor impairment caused by haloperidol. IMI was administered intraperitoneally for five weeks, and during that time, no motor activity or motor coordination was seen. (6)

Tab reported a different trial. The psychiatrist's suggested dosage of haloperidol when taken with water showed reduced exploratory activity without causing akinesia. After 3 weeks of treatment, there was a maximum impairment in motor coordination, and after 5 weeks of treatment, tolerance to the drug's motor impairment had established. When haloperidol was administered orally as opposed to intraperitoneally, the severity of vacuous chewing movements (VCMs) and tardive VCMs increased. The findings demonstrate that oral haloperidol administration causes a continuous impact, leading to tolerance in cases of acute parkinsonism but greater intensity of tardive dyskinesia. (7)

According to one theory, excessive stimulation of the supersensitive D2 receptor causes "don't stop" signals for motor output, causing tardive dyskinesia, this throws off the delicate balance between activating dopamine receptors and inhibiting them in the motor striatum of people.

First- and second-generation antipsychotics may produce dysphagia, according to some research. An extrapyramidal adverse reaction or the anticholinergic effects of antipsychotics may be the cause of this syndrome. Dysphagia can be treated in a variety of ways, such as stopping the antipsychotic, lowering the dose, dividing the dose, or switching to another antipsychotic. Dysphagia may

be to blame for both the short-term effects of airway blockage, such as choking, asphyxia, and aspiration pneumonia, as well as the long-term effects of weight loss, dehydration, starvation, and poor compliance with an oral antipsychotic medication. (8)

here is proof that olanzapine causes metabolic syndrome and dyslipidemias, but lower risk of developing Rabbit Syndrome (RS). Other tardive disorders are of greater concern; tardive dyskinesia, tardive akathisia, and tardive dystonia are the most prevalent. A rare form of tardive dystonia is known as tardive oculogyric crisis (TOC)The current patient also had TOC, but there were no reports of weight gains while receiving unmonitored olanzapine medication. The present patient has now discontinued using olanzapine, which can be begun at a low dose along with the discontinuation of aripiprazole and trihexyphenidyl.

Due to a reduced incidence of Rabbit Syndrome compared to conventional antipsychotics, atypical antipsychotics are the first line of treatment for schizophrenia. If antipsychotic medications are given in a higher dose, Rabbit Syndrome may result. The usual side effects of antipsychotics should be balanced with these.

In contrast to haloperidol, ziprasidone, and maybe olanzapine, intramuscular Midazolam was found to be more effective at sedating agitated patients at 15 minutes. Haloperidol does not sedate as effectively as olanzapine. (9)

According to the research, olanzapine medication results in a normalization of brain activity in schizophrenia patients. Both frontal cortex and cingulate cortex activity during cognitive and emotional activities were observed to undergo typical functional alterations. Treatment with olanzapine appears to be particularly effective when it comes to processing emotions since it controls the limbic and striatal systems' activity, or "emotional brain."

Olanzapine is effective at treating chemotherapy-induced nausea in cancer patients as well as anorexia nervosa, according to recent studies. There is still a lack of data supporting large doses of olanzapine (>20 mg).

When a patient uses olanzapine for the first time, there could be an occurrence of thrombocytopenia and neutropenia being caused. In one of the cases, the patient reportedly experienced biochemical neutropenia and thrombocytopenia without exhibiting any clinical signs, which went away after the medicine, was completely stopped. Despite its relative rarity, a case report to a growing corpus implies that clinicians and psychiatrists should keep a close eye on patients while prescribing olanzapine and regularly check hematological counts to look for any irregularities or immunosuppression.

In comparison to Risperidone, Perazine, and Haloperidol, Clozapine and Olanzapine slightly more frequently cause an increase in liver enzymes.

The primary adverse effect of anti-psychotic medications is known as neuroleptic malignant syndrome (NMS), which can result from rhabdomyolysis-induced renal failure, respiratory insufficiency caused by aspiration pneumonia due to the promise of conscience and dysphagia, and myocardial infarction, which results in heart failure and arrhythmias. There is proof that the increased dose of neuroleptics can trigger the Neuroleptic Malignant Syndrome. Drug withdrawal, on the other hand, can also trigger this syndrome since it abruptly interrupts the brain's dopamine supply.17 For schizophrenic patients, olanzapine is a superior drug option because it lessens Extra Pyramidal Symptoms.

Olanzapine is statistically superior to the haloperidol group in one RCT, according to the primary analysis (p 0.001). Secondary analyses further supported the advantage of olanzapine in the DIEPSS total. The severity scores for Parkinsonism, Akathisia, and Overall (all p or =0.014). Using categorical analysis, it can be seen that the treatment-emergent Parkinsonism and Akathisia syndromes at the endpoint improved in the olanzapine group but deteriorated in the haloperidol group.

Olanzapine demonstrated a statistically significant Rabbit Syndrome profile compared to the traditional antipsychotic medication haloperidol when olanzapine and haloperidol were compared to determine the effective antipsychotic drug dosages. Despite being statistically significant, anticholinergic medications are more usually taken along with haloperidol to avoid RS. Olanzapine has a markedly decreased incidence of RS. Olanzapine was stopped in more individuals due to Rabbit Syndrome, although haloperidol had improved long-term adherence and negligible anticholinergic-associated effects.

When compared with haloperidol using the Brief psychiatric evaluation scale, olanzapine exhibits considerably better clinical outcomes. (10)

3. Conclusion

When delivering antipsychotic medications to patients, nurses should be aware of any negative side effects. This will help the psychiatrist prevent potential patient injury and will also encourage families to schedule regular follow-up appointments following discharge.

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Informed Consent
Before beginning the case report, the patient was informed and given signed consent.

Conflict of interest
Nil

Financial resource of the study
Nil

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