Olanzapine-Induced Weight Gain in A 13-Year-Old Patient with Trichotillomania: A Case Report

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ABSTRACT

Objective: To emphasize a case of olanzapine-induced weight gain in a 13-year-old girl with trichotillomania and discuss the management strategies implemented.
Case Summary: A 13-year-old female diagnosed with trichotillomania experienced significant weight gain after being prescribed olanzapine. The patient also developed increased appetite. Consequently, olanzapine was discontinued and replaced with other antipsychotic agent, alongside lifestyle modifications including diet modifications and regular physical activity.
Conclusion: The case highlights the potential for olanzapine to induce significant weight gain and emphasizes the need for careful monitoring and timely intervention. A shift to safer option and lifestyle changes are essential in managing the patient's condition.

Keywords: Trichotillomania, Olanzapine, Weight Gain, Paediatrics, Atypical Antipsychotics, Metabolic Effects

INTRODUCTION

Trichotillomania, also known as hair-pulling disorder, is characterized by the repetitive and compulsive urge to pull out hair, leading to noticeable hair loss and emotional distress. Classified under obsessive-compulsive and related disorders in the DSM-5, this condition typically begins during childhood or adolescence and can be difficult to manage, leading to a significant impact on the individual's quality of life (1). Trichotillomania is often associated with co-occurring psychiatric conditions such as anxiety and depression, which further complicate its treatment (2, 3).

First-line treatment for trichotillomania include cognitive-behavioural therapy (CBT) and selective serotonin reuptake inhibitors (SSRIs) (4), but pharmacological interventions with atypical antipsychotics, such as olanzapine, have been explored due to their ability to reduce compulsive behaviours (5). Olanzapine is a second-generation antipsychotic known for its dopamine and serotonin receptor antagonism, which can modulate mood and reduce compulsions(6) . However, it is also associated with significant side effects, including weight gain, increased appetite, and metabolic disturbances. Studies have shown that olanzapine can induce weight gain even in the paediatric population, which raises concerns about long-term health outcomes such as obesity and metabolic syndrome (7).

This case report, presents a 13-year-old female diagnosed with trichotillomania who experienced substantial weight gain following olanzapine treatment, which necessitated a change in medication.

METHODOLOGY

The case study was done in psychiatry department at a tertiary care hospital in Hyderabad, India.

CASE PRESENTATION

Patient Information

A 13-year-old female patient was diagnosed with trichotillomania at the age of 11. The family had initially took treatment at a local hospital but discontinued therapy after a short period. The patient presented to our hospital three months ago with worsening symptoms of hair-pulling behaviour, primarily affecting her scalp and eyebrows. Her family reported that her behaviour had intensified due to increased academic stress. No significant past history and family history noted.

Initial Symptoms

At the time of presentation, the patient displayed visible hair loss and emotional distress related to her condition. She expressed emotions of frustration associated with guilt, about her inability to control the compulsive hair-pulling.

Treatment Initiation

Three months ago, the patient was started on sertraline 25 mg to manage underlying anxiety and olanzapine at a dose of 2.5 mg daily to control the compulsive behaviour. After one month of treatment, the dose of olanzapine was increased to 5 mg daily due to minimal response at the lower dose.

RESULTS

Weight and Appetite Changes

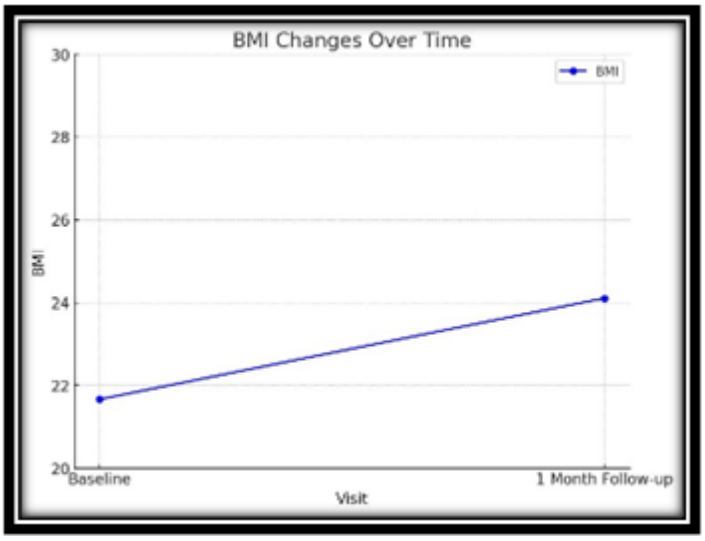
At the start of olanzapine therapy, the patient's weight was recorded as 44.3 kg with a height of 143 cm (BMI: 21.66), which is within the normal range for her age and height. After one month of treatment with olanzapine 5 mg daily, her weight increased to 49.3 kg, resulting in a BMI of 24.1, which placed her at risk of being overweight (7).

During the follow-up visit, the patient's family reported that she had developed a significantly increased appetite, consuming larger portions of food, particularly carbohydrate-rich meals, and taking snacks more frequently. This marked increase in appetite was believed to be the primary cause of the rapid weight gain.

Visit	Weight (kg)	Height (cm)	BMI
Baseline	44.3	143	21.66
Follow up visit	49.3	143	24. 1

BMI Changes Over Time

The graph below illustrates the increase in the patient's BMI over the course of olanzapine treatment.



Course of Action

Given the significant weight gain, olanzapine was discontinued, and the patient was transitioned to aripiprazole, another atypical antipsychotic with a lower risk of metabolic side effects. Along with the medication change, lifestyle modifications, including dietary counselling and regular physical activity, were recommended to manage her weight gain and increased appetite. The

patient was also enrolled in regular counselling sessions to address the psychological aspects of trichotillomania and improve adherence to her treatment plan (8).

DISCUSSION

Olanzapine is known to cause weight gain, particularly in paediatric patients. The mechanisms behind this include increased appetite due to its antagonism of serotonin (5-HT2C) and histamine (H1) receptors, as well as metabolic alterations. While it can be an effective medication for reducing compulsive behaviours, the metabolic side effects, particularly in young patients, are concerning.

In this case, the patient experienced rapid weight gain, leading to a BMI indicating she was at risk of being overweight. This prompted a change to aripiprazole, a medication with a more favourable metabolic profile. Early identification and intervention in patients experiencing weight gain are essential to prevent long-term complications such as obesity, insulin resistance, and cardiovascular issues (9).

CONCLUSION

This case highlights the challenges of using olanzapine to treat trichotillomania in paediatric patients (10) . While it can reduce compulsive hair-pulling behaviours, the associated metabolic side effects, including significant weight gain, must be closely monitor recognition and timely intervention, including medication adjustments and lifestyle modifications, are crucial to preventing long-term health risks. A multidisciplinary approach, including pharmacotherapy, lifestyle counselling, and psychological support, is essential for effective management.

LIMITATIONS

This study was limited to one patient, and the effects of sertraline were not taken into account, However, a detailed and long-term study with a bigger population size should be done to study the combine effects of sertraline and olanzapine in paediatric patients with trichotillomania.

Declaration by author

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