



CASE REPORT

Olanzapine Induced Hair Loss in an Adolescent Case

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ABSTRACT

Drug induced alopecia is a reversible side effect of psychopharmacological treatments. Diffuse hair loss occurs with use of antipsychotics more rarely than mood stabilizers shown to be related to alopecia. In the literature, there is only one case report presenting an atypical antipsychotic "quetiapine" induced hair loss during adolescence when individuals are more sensitive to undesirable effects of drugs. Olanzapine, a safe and well tolerated atypical antipsychotic, is prescribed in child and adolescent psychiatry clinics. Alopecia may not be described by children and adolescents, but clinicians should be aware of this problem that may lead to impair compliance with treatment. In the report, an adolescent case of alopecia related to use of olanzapine that recovered after cessation of the drug is presented.

Keywords: Adolescent, alopecia, olanzapine

INTRODUCTION

Alopecia is characterized by diffuse, non-scarring, localized or generalized hair loss on the scalp. The etiology of alopecia is not fully understood, but it is thought to be a dermatological disorder that arises from a combination of genetic and environmental influences (e.g., pregnancy, thyroid disorders, iron-deficiency anemia, infectious diseases, drugs, malnutrition and psychological stress).

After birth, mature hair follicles periodically regenerate by spontaneously undergoing repetitive cycles of growth (anagen), apoptosis-driven regression (catagen), and relative quiescence (telogen) (1). Psychotropic drugs may cause hair loss in the anagen and/or telogen phases. Alopecia occurs rapidly or in a few months after drug administration. It usually recovers in

2-18 months after drug discontinuation. Psychopharmacological treatments that are shown to be related to alopecia are mood stabilizers (2). More rarely, alopecia might occur with use of antidepressants, anxiolytics and antipsychotics (3).

In the literature, only one adolescent case with atypical antipsychotic "quetiapine" induced diffuse hair loss has been reported (4). However, there is no study reporting olanzapine induced alopecia in adolescents. In this report, a 14-year-old female adolescent who experienced diffuse alopecia related to use of olanzapine and recovered after discontinuation of the drug is presented.

CASE PRESENTATION

A 14-year-old female adolescent was referred to our outpatient clinic with complaints of "school refusal, irritability, fatigue, and somatic symptoms such as headaches, ear pain and back pain" by her pediatrician. Her parents revealed that her complaints had started 3 months ago, and she had no psychiatric problems formerly. Her history showed that she had no problem associated with the stages of motor-mental development,

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and no epileptic seizure/trauma or a serious disease. Before the psychiatric examination, she was examined whether there was a physical cause underlying of the symptoms, and evaluated as normal by a pediatric neurologist, rheumatologist, orthopedist, and algologist.

In the psychiatric examination, the patient was an adolescent showing her age, and dressing according to her socioeconomic status. She could not sit because of her back pain. She was conscious and fully oriented. Concentration, memory, perception, and insight were within normal limits. Her mood was anxious and irritable. She had a negative attitude towards the psychiatrist. She complained of the pain. The content of her thoughts was that she might have a physical illness related to the pain. The patient received the diagnosis of "somatic symptom disorder" according to the criterions of the diagnostic and statistical manual of mental disorders-5 (DSM-5). The treatment was started with fluoxetine 10 mg/day and olanzapine 2.5 mg/day. Subsequently, the doses of fluoxetine and olanzapine were increased to 20 mg/day and 5 mg/day, respectively. After four weeks of treatment with fluoxetine and olanzapine, the symptoms began to diminish. At the end of the second month of treatment, she stated that the pain pasted significantly, and she was able to go to school regularly. However, she complained of diffuse hair loss that she was suffering from lately.

The patient was referred to the dermatology clinic, and assessed with biochemical tests (including thyroid, liver, and kidney function tests, hemogram, vitamin B12, iron and folate levels, iron binding capacity, serum electrolytes, zinc and copper levels) to detect potential causes underlying of diffuse hair loss. She was diagnosed with no dermatologic disease related to alopecia, and all parameters were within normal limits. She did not use any drugs other than fluoxetine and olanzapine. Her menstrual cycles were regular. She did not have a history or family history of alopecia. The patient was not considered as trichotillomania due to the fact that both she and her family stated that she did not pull her hair. Olanzapine use was assessed as probable cause of the hair loss by using the Naranjo adverse drug reactions probability scale (the total score: 7) (5), consequently the drug was discontinued. No additional

treatment for alopecia was used. Due to the reduction of symptoms, the treatment was continued with fluoxetine 20 mg/day. At follow-up, hair loss decreased. Her hair returned to its former condition within 3 months. Verbal consent was obtained to report from the patient and her parents.

DISCUSSION

In recent years, antipsychotics (especially atypical ones) are increasingly being used in children and adolescents with the purposes of mood stabilization, augmentation (e.g., increasing of antidepressants' effect), and symptomatic treatment via dopamine receptors (6). Although the safety and tolerability data of antipsychotic use in childhood is limited, children and adolescents are known to be more susceptible to develop sedation, acute extrapyramidal side effects, withdrawal dyskinesia, hyperprolactinemia, and age-inappropriate weight gain with related to metabolic abnormalities (7). In addition, adverse cutaneous reactions are reported to occur in approximately 5% of patients using the antipsychotics. Most of them are benign and easily cured such as pruritus, urticaria, fixed drug eruptions, photosensitivity, drug-induced pigmentation, and alopecia (8).

The antipsychotics induced alopecia was reported with olanzapine, haloperidol, risperidone, ziprasidone, loxapine, and quetiapine in adults (8-12). In the literature, there is only one adolescent case report presenting quetiapine-associated alopecia (4). This is the first published case report of alopecia associated with olanzapine in an adolescent. Two cases of olanzapine-associated alopecia in adults were reported (9, 12). Similar to the present case, alopecia in both of them worsened with increase of olanzapine dose, and then recovered after discontinuation of olanzapine (9, 12). It is difficult to decide whether olanzapine use induces alopecia due to lack of specific methods showing this causal relationship. Alopecia appearing after drug administration and/or dose increase, and new hair formation after drug discontinuation stimulate clinicians for differential diagnosis (5, 13). The cellular mechanism has not yet been fully understood. Drugs may be chelated with zinc and selenium known to be critical for hair growth, may interrupt the mitotic activity of the hair

follicles in the anagen phase, and facilitate early stopping of the hair follicles in the telogen phase (12).

CONCLUSION

Olanzapine is generally considered a safe and well tolerated atypical antipsychotic. Alopecia may not be described by children and adolescents, but clinicians should be aware of this problem that may lead to impair compliance with treatment.

Ethics Committee Approval: The procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation.

Patient Informed Consent: Verbal consent was obtained from the patient and her parents.

Conflict of Interest: The author have no conflicts of interest.

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