

## Hair Loss Following the Topiramate Treatment

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### ABSTRACT

**BACKGROUND AND OBJECTIVE:** Genetics, hormone profiles and other physiologic factors can cause hair loss. Medication induced hair loss is an occasional side effect of many psychopharmaceuticals. It can reduce medication compliance if not discovered and treated. We present a 18 year old female with migraine headache who developed hair loss after 3 months of receiving topiramate treatment.

**CASE REPORT:** 18 year old female had been suffering from headache visited in psychiatric clinic. She agreed to a treatment with topiramate (50mg per day) for Migraine headache. 3 months later, the patient complained of significant hair loss. Topiramate tapered to 25 mg/day and stopped. Hair loss stopped after topiramate withdrawal. Two weeks after reintroduction of topiramate, hair loss developed again. The medication was stopped and hair loss stopped again.

**CONCLUSION:** Topiramate can cause hair loss. Although the condition is not life-threatening, a decrease in medication compliance can cause recurrence of the underlying disease. It is necessary to ask the patient at visits about it.

**KEY WORDS:** *Topiramate, Migraine, Hair loss, Drug adverse effect.*

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## Introduction

Many factors have been identified as the cause of hair loss. Genetic factors, hormones, immune function, etc. are involved. Hair loss happens with psychiatric drugs. Taking mood stabilizers and antidepressants and some antipsychotics and anti-anxiety drugs can lead to hair loss. The hair loss can be due to hypothyroidism (primary or secondary) (1). Especially when taking older antiepileptic drugs (such as sodium valproate and carbamazepine) has been accessed. Hair loss when taking the newer antiepileptic drugs have been reported to be rare (2).

Patients should be asked directly about hair loss during interviewing. Because patients generally do not report this problem and if the doctor does not ask about that complication, medication compliance is discovered and treated, and reduced (3). Topiramate in terms of the structure of an antiepileptic agents is new in the treatment of migraine headaches, neuropathic pain, tremor and state psychiatric including bipolar disorder, bulimia, stress disorder after the incident, schizoaffective disorder is used (4). Among the 11 anti-seizure drugs that are already available, topiramate has the highest rates of discontinuation due to side effects (5).

The most common side effects of topiramate is mild to moderate and severity involvement of central nervous system and include drowsiness, fatigue and mental slowness of movement (7, 6). Other commonly reported side effects include difficulty concentrating, numbness and nausea pointed out (8). Hair loss is rarely seen in consumers of topiramate (2). Hair loss following discontinuation of the drug for the diagnosis in individual that taking high doses of topiramate in keeping with diffuse hair loss has been helpful. (9) The condition is not life-threatening, but to involve the community, creates a lot of psychological problems. (1) The decrease in medication compliance by patients, leading to a recurrence of the underlying diseases (10). Therefore, a patient is reorted with a diagnosis of migraine experienced hair loss following treatment with topiramate.

## Case Report

18-year-old female patient, single, senior student because of a headache started two years ago admitted to the psychiatric clinic in the city of Sari. Headache was one-sided throbbing and repeated per week. With ambient noise and light is intensifying. Each attack

takes at least a day and leads to dysfunction in the patient. In medical history personal and family history of psychiatric illness does not exist. There was no family history of similar headaches. Tests required for patients was normal. No anemia and hypothyroidism was observed. In BRAIN MRI no pathologic finding was observed. Finally, patients with diagnosis of migraine headache (according to DSM-IV criteria) (11) treated with topiramate (50 mg per day in divided). As well as for prophylaxis propranolol 40 mg per day (20 mg twice daily) was started for patient. Patient used 0.5 mg alprazolam for sleep problems at night in case of lack of sleep. After 3 months, the patient was noticed by hair loss. Due to the lack of physical problems and a history of normal hair loss is considered secondary to the use of topiramate. Drug gradually decreased to 25 mg once a day and stops. 1 week after stopping, hair loss can be improved. Again, topiramate doses of 25 mg twice daily for patients was started. 2 weeks after starting the drug, the patient experienced hair loss again. Medications for the second time stops and hair loss also improved.

## Discussion

In this case, the patient with no history of health problems after starting topiramate to treat migraines, has experienced hair loss. Hair loss following discontinuation of topiramate improved but again is started with medication. Based on the assessment scale of drug reaction of Naranjo et al, this patient has 5 points out of 10 which consider drug side effects (10). Medications can cause a range of diseases of the skin and hair from hair loss that can be seen hardly to a complete loss of hair (9).

Hair loss after taking medication is generally diffuse, without scar and is reversible. Only affects the head skin and with no other symptoms (2). Among reported articles there was only one case of hair loss after taking topiramate. Chaung et al reported a case of a 15-year-old girl with a diagnosis of frontal lobe seizures from 4 years of age (2).

Her seizure was started with tonic-clonic seizures and movement in the right upper and lower organs has continued. BRAIN MRI was normal. Seizure was not controllable despite receiving Vigabatrin and carbamazepine. Vigabatrin was replaced by topiramate at a dose of 50 mg per day and gradually to 200 mg per day. After 2 months a diffuse hair loss with no scar and preferable in front of the head was began. There was

no another change in the color or structure of the hair. According to the normal passing all the tests and other diagnostics and due to the lack of long-term experience of hair loss after taking carbamazepine, topiramate was discontinued.

Although the seizures started again after discontinuation of topiramate hair loss has been fixed gradually and new hair growth was observed. For control of seizure of patient, topiramate was started again and hair loss also was created for a second time. Because of the effectiveness of topiramate on the seizure, the patient agreed to continue the medication. Uehlinger and cooperation reported a case of hair loss after taking mood stabilizers (lithium and sodium valproate) which was discussed.

The report emphasized definitive diagnosis of hair loss is hard during medication and it is necessary to confirm these causal relationship to follow complicated drug that has been disconnected to be re-started. (12) Although hair loss is not life-threatening condition, but in the community creates a lot of psychological problems (1).

The decrease in medication compliance by patients leads to a recurrence of the underlying disease (10). There are no specific treatments for this complication. There was no enough information about the mineral or supplementary medicines (2) however, dose reduction or discontinuation of the drug goes away. If possible, alternative medications should be started. If another appropriate remedy is not available, it should be considered the advantages and disadvantages of continuing or stopping treatment, change the dose or type of medication in the patient.

It should be decided based on the severity of hair loss, effects on the patient's emotional status and psychiatric disease. Topiramate is a drug that is well tolerated and its side effects are more in rapidly occur by increasing the dose and is removed over time or with reduction of dose (13). It can be said that the only way to establish the diagnosis of hair loss after taking medication, withdrawal of suspected drug for a while is enough to allow to hair to re-grow and then it is needed the same treatment be started again unless the drug has known effects of hair loss.

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