

TRICOTILLLOMANIA SECONDARY TO TRAUMATIC BRAIN INJURY

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INTRODUCTION

Trichotillomania; It is a mental disorder that was first described by dermatologist Hallopeau in 1889 in a patient who was followed up as a type of alopecia, whose hair was pulled out in tufts(Swedo 1993). Today, Trichotillomania is defined as an obsessive compulsive related disorder characterized by recurrent chronic hair pulling. In trichotillomania cases, complete or partial alopecia usually occurs on the scalp. Its prevalence has been reported as 1.7 %(Grant et al.2020a).There are types of trichotillomania that become chronic and sometimes improve. The scalp is the most plucked area, followed by eyebrows and eyelashes (Anwar & Jaffery 2019). Treatment is usually with the joint participation of psychiatrists and dermatologists, and SSRIs are generally used in pharmacotherapy. Better results are obtained when pharmacotherapy and psychotherapy are used in combination (Farhat et al.2020). In this article, we discussed a patient who applied to our clinic due to depression and had trichotillomania. Her depression

had started 8 months ago, but trichotillomania developed secondary to head trauma at the age of 15. A young female case with limited edematous skin and alopecia in the scalp area, which is exactly in line with the gliotic brain area, is presented.

CASE DESCRIPTION/DIAGNOSIS

A 30-year-old woman, a housewife with 2 children, applied to the polyclinic with complaints of not being able to enjoy life, reluctance, intolerance, and fatigue, which lasted for about 7-8 months. The patient, whose family history was unremarkable, had a history of head trauma after falling from a height at the age of 15. There was no neurological sequela after the trauma. In the psychiatric examination; her self-interest and care had diminished, her mood was depressive, her affect was compatible with her mood, and her thought content was also depressive. The localized alopecia area and edematous skin on the left frontal side of the patient's scalp was

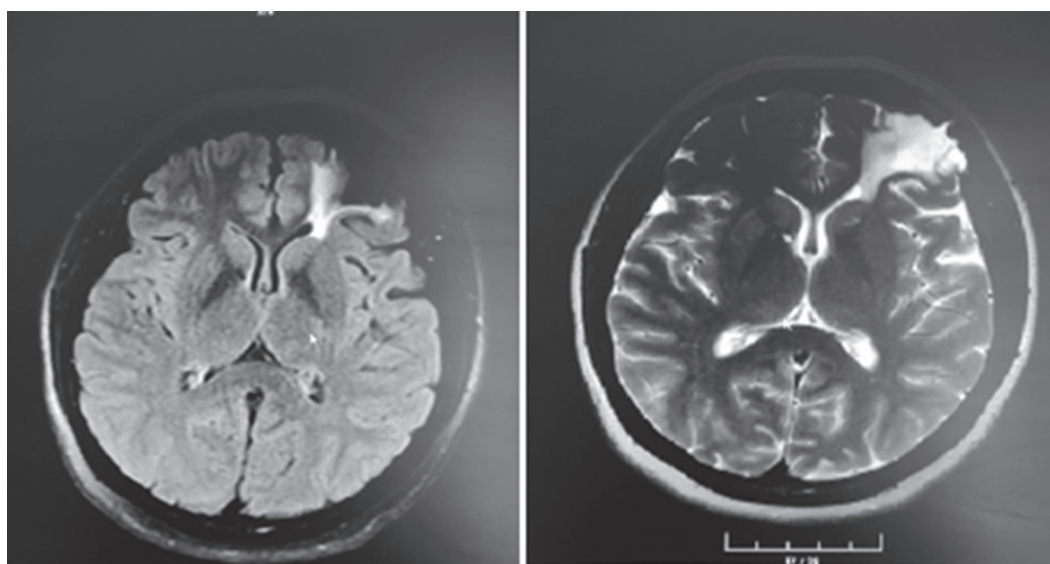


Figure 1

detected. She stated that the patient had plucked her hair on the left side of her head since her secondary school years. She stated that when she had itching and burning sensation at the base of the hair, she brought her hand to her hair and felt relief when pulling the hair out. She said that she repeated these movements without realizing it for a while, and that she regretted when she realized this situation. She said that she often repeated the hair-pulling behavior when she was alone, watching TV. The patient's Hamilton Depression Rating Scale (HDRS) score was 22 at the first examination. On cranial magnetic resonance imaging, volume loss in the neural parenchyma in the left frontal region at the corona radiata level, and pathological signal increases consistent with hyper-intense gliosis in T2A and FLAIR in the adjacent deep white matter were observed (Figure 1). The patient was diagnosed with trichotillomania since childhood, and major depressive disorder was considered as co-morbidity.

The patient was started on sertraline 50 mg/day. It was observed that there was some improvement in depressive symptoms with treatment. Cognitive behavioral therapy was applied along with pharmacotherapy in subsequent interviews after 1 month. She gained new skills to control her behavior. After the 8th week of the treatment, there was a significant improvement in her depressive symptoms. Her HDRS score decreased to 6. In the 20th week, improvement was observed in hair pulling behaviors, and the alopecia area of the patient disappeared completely. She is still being followed in remission.

DISCUSSION

The main emphasis in this case is the scalp area where trichotillomania occurs. Although the patient occasionally recovered spontaneously, she has been pulling out her hair in the same area since the 15-year-old trauma, causing alopecia. She plucked the hair of the scalp area, which is exactly in line with the gliotic brain damage area after the trauma. In fact, edema of the scalp skin parallel to the gliotic region is also seen on cranial MRI (Figure 1). Another highlight is that the skin area parallel to the gliotic area, where itching and burning sensation at the roots of the hair, has not changed at all.

Sensory hypersensitivity is defined as a disproportionately intense, prolonged, or heightened response to ordinary sensory stimuli such as tactile and auditory sensations (e.g., chewing sound, sensation of certain clothing textures), resulting in functional impairment (Rogers & Luby 2011). Disorders in the spectrum of Obsessive Compulsive Disorder are also thought to be related with

sensory hypersensitivity (Falkenstein et al. 2018). A comprehensive behavioral model for trichotillomania was developed. Stimuli subjected to a classical conditioning mechanism develop the capacity to cue the impulse or urge to pull (conditioned stimuli); the reinforcing and aversive behaviors associated with pulling and their role in maintaining or terminating episodes (consequences); and stimuli come to facilitate or inhibit pulling through operant conditioning mechanisms (discriminative stimuli) (Duke et al. 2010). In this case, it was thought that hair pulling behavior may have developed due to sensory sensitivity and itching due to mediators involved in the healing process of the wound after head trauma.

The relationship between obsessive compulsive spectrum disorders and neurological disorders is remarkable. Pathophysiologically, it may develop secondary to head trauma or temporal lobe epilepsy in the orbitofrontal cortex and basal ganglia region (Beşiroğlu et al. 2004). Grant et al. found an association between longer disease duration and lower cortical thickness in the bilateral superior frontal cortex and left rostral middle frontal cortex (Grant et al. 2020b). In our case, a 30-year-old female patient suffered a head trauma 15 years ago, and at the level of the corona radiata, volume loss in the neural parenchyma in the left frontal region draws attention as a pathological signal increase consistent with hyperintense gliosis.

In our case, trichotillomania was characterized by changes in the frontal region after trauma. The fact that hair pulling behavior developed after head trauma is localized to the traumatic area makes our case interesting. Left frontal region damage due to trauma may have played a role in the basis of trichotillomania. The fact that the area where the hair is plucked coincides with the traumatized skin may be related to sensory sensitivity. In fact, it is thought that the trichotillomania behavior developed in this region may be related to sensory sensitivity due to the mediators involved in the healing process of the post-traumatic wound.

Necessary consent was obtained from the patient for the case report.

Ethical Considerations: Does this study include human subjects? YES

Conflict of interest: No conflict of interest

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