

Trichotillomania: A case report and review of the literature

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ABSTRACT

Trichotillomania is a form of impulsive disorder characterized by repetitive, deliberate, and irresistible pulling of one's own hair resulting in traumatic alopecia that is commonly seen in children. It has a fluctuating course that waxes and wanes in association with a stressful or emotional event. It produces non-scarring alopecia at the onset and if not addressed on time, it may lead to permanent scarring alopecia. In this article, we report a case series of trichotillomania with a review of the literature.

Key words: Trichotillomania, Alopecia, Bezoar, Hair loss in children

INTRODUCTION

Trichotillomania was first described by French dermatologist Hallopeau in 1889 [1]. The word *trichotillomania* is derived from the Greek word *thrix* meaning *hair*, *tillein* meaning *pulling out*, and *mania* meaning *madness*. It is a form of traumatic alopecia in which there is repetitive, deliberate, and irresistible pulling of one's own hair resulting in hair loss [1].

CASE REPORTS

Case 1

An eleven-year-old girl was brought with complaints of hair loss over the right side of the scalp for the past one month. The patient was right-handed and there was a history of frequent pulling of hair, which was exacerbated during times of stress and reading as noticed by the mother. The patient pulled her hair curls until they broke. Due to this habit, her hair was cut short. In spite of this, the patient continued to pull her hair repeatedly. There was a history of excessive anger and agitation in the patient for the past three months. There was no history of psychiatric illness in the family. There was a decline in grades in the class, and she had

difficulty getting along with the peer group. There was no history of itching, pain, or scaling over the scalp. There was no history of systemic complaints such as abdominal pain or bowel disturbances or previous hair procedures or styling.

On examination, there was ill-defined, non-cicatricial patchy alopecia noticed over the right side of the scalp (Fig. 1). Figure 2 shows classical zones of hair loss in trichotillomania. There were no signs of inflammation, scaling, or nits on the scalp. The other hair bearing sites of the body were normal. She was referred to the psychiatry department and was managed with counseling, behavioral therapy and anti-psychotics.

Case 2

A 45-year-old female came with complaints of hair loss from the scalp present for the last twenty years. The patient was a known case of anxiety disorder due to domestic violence. The patient gave a history of irresistible pulling of hair from the vertex on occasions of stress.

On examination, a tonsure pattern of hair loss with broken hair strands of different lengths was seen over the vertex extending bilaterally to the parietal region (Fig. 3). Dermoscopic examination revealed

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perifollicular hemorrhage. The patient was on diazepam 5 mg for anxiety. She was put on tablet N-acetylcysteine 600 mg twice a day.

Case 3

A ten-year-old girl (accompanied by her mother) was brought to the OPD with complaints of hair loss from the right side of the scalp for the last three months. A history of pulling and twisting of hair till it broke was the principal one. There was a history of

behavioral change in the form of excessive anger, lack of concentration, and a drop in grades.

On examination, there was irregular, patchy hair loss involving the right parietal and temporal region. There were multiple broken hairs of different lengths (Figs. 4a and 4b). The patient was referred to the psychiatry department and was put on fluoxetine.

DISCUSSION

Trichotillomania is a form of impulse control disorder [2], also regarded as a body-focused, repetitive behavior disorder with an incidence of 0.5–2%. In childhood, it is commonly seen at 10–13 years of age with equal sexual predisposition and, in adults, it shows a female preponderance.

Behavioral hair pulling is usually preceded by a precipitating incident, which includes poor parent-child or marital relationships, childhood trauma, poor interpersonal relationships, peer pressure, and emotional neglect.

The patient usually pulls their hair during an emotional or stressful event or during sedentary activities such as reading, writing, or watching TV. Some people are so ashamed of their behavior that they prefer to conceal the alopecic patch with hats, wigs, bandanas, or make-up.

The hair pulling behavior may be focused or automatic/unfocused. The unfocused behavior refers to unknowingly pulling of hair. This type is more common in children. The focused variant refers to the conscious pulling of hair with the knowledge of the patient. This

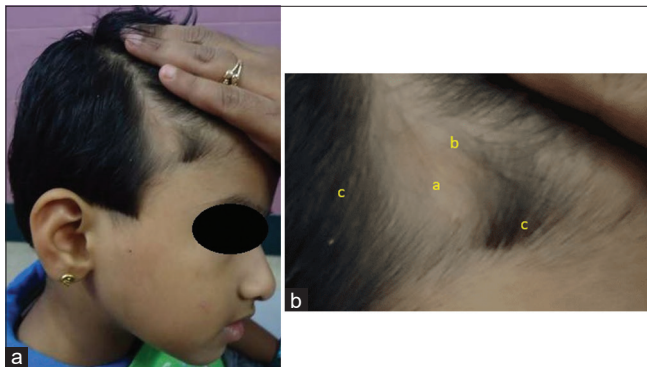


Figure 1: (a) The patchy hair loss on the frontotemporal region, (b) Three zones of hair loss in trichotillomania: a) patchy hair loss devoid of hair, b) broken hairs of different lengths, c) normal hair zone.



Figure 2: Tonsure pattern of hair loss.

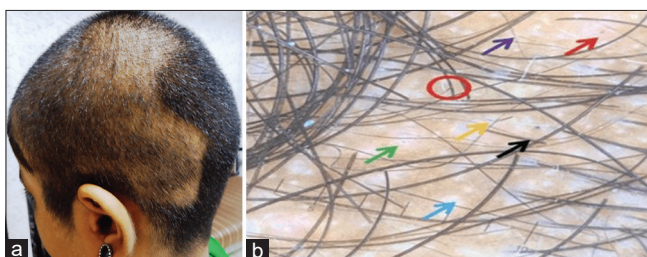


Figure 3: (a) Shows trichotillomania involving the right side of scalp, (b) Red arrow - Perifollicular hemorrhage, Violet arrow - regrowing vellus hair, Yellow arrow - hook hairs, black arrow - Broken hairs, green arrow - black dot, blue arrow - empty follicles, red circle - mace hair.

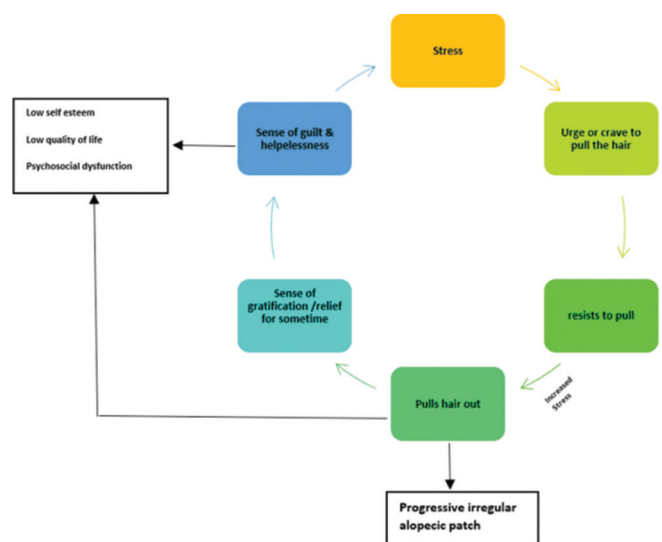


Figure 4: Cycle of repetitive hair pulling in trichotillomania.

may be a form of body dysmorphic disorder in which the patient feels that something is “not right” with the hair or that it is “out of place” [4]. Table 1 shows the criteria for diagnosis of trichotillomania according to DSM-V (Diagnostic and Statistical Manual of Mental Disorders).

It has a fluctuating course that waxes and wanes in association a stressful or emotional event. It is classified into two types: acute and chronic (Table 2).

Clinically, it presents as a non-scarring bizarre type of hair loss seen commonly on the side of the reach of the dominant hand with three zones from inside out: zone of complete hair loss, zone of broken hairs of different lengths, and zone of normal growing hair (Fig. 2). Hair pulling is more intense during the times of stress. The scalp hair is most commonly plucked, followed by the eyebrows and public hairs [5]. Stress initiates an irresistible urge to pull the hair, and the patient forcibly pulls the hair in spite of knowing that what they are doing is not good for them, which further produces a sense of gratification, which is soon taken over by the sense of guilt, that in turn, aggravates stress, and the cycle continues (Fig. 5).

Table 1: The criteria for diagnosis of trichotillomania (DSM-V) [15].

1. Repeated hair pulling causing one’s own hair loss.
2. Failure to stop hair pulling in spite of repeated attempts.
3. The pulling of hair cannot be explained better by the symptoms of another mental disorder (e.g., body dysmorphic disorder).
4. The hair pulling is not related to any medical disorder.
5. There is significant distress/impairment in occupational, social, or other important areas of functioning.

Table 2: Types of trichotillomania.

Acute	Chronic
Seen in children/adolescents	More common in adults
No sexual preponderance	Female preponderance
Exacerbated by anxiety	Commonly associated with psychiatric illness
Asymmetric and mainly involves the scalp hair	Involves the scalp hair yet may also involve other hair bearing sites such as the pubic region, eyebrows, chest, etc.
Unfocused hair pulling is common	Focused hair pulling is common
Responds well to treatment and prognosis is good	Does not respond well to treatment and prognosis is bad

Progressive hair pulling from the crown may lead to the “Friar tuck” sign or “tonsure” sign [6] (Fig. 6).

The associations of trichotillomania include personality disorders, anxiety, mood disorders, obsessive-compulsive disorder, substance abuse, eating disorders, post encephalitic syndrome, generalized paresis of insane, and dementia.

The complications of trichotillomania are bleeding, scar/keloid formation, folliculitis, carpal tunnel syndrome, shoulder pain (muscle pain due to frequent pulling of hair and keeping the head in a tilted position for a long duration) [7]. Trichophagia (eating of hair) may in turn lead to trichobezoar and Rapunzel syndrome [8] (extension of the trichobezoar into the small intestine) presenting with intestinal obstruction, abdominal pain, weight loss, dark green to black colored stools and halitosis.

Diagnosis is mainly clinical. Histopathological findings depend upon the duration and severity of the disease. The common histological findings include empty hair follicles, dystrophic hairs or trichomalacia, and there is predominance of catagen hairs, perifollicular hemorrhage with or without follicular plugging. The dermis is normal and non-inflammatory [9-11].

Trichoscopy is a highly useful tool in the case of difficulty in diagnosis. The specific changes in trichotillomania include follicular hemorrhage, tulip hairs, hook hairs, V-hairs, hair powder, and flame hairs [12]. The non-specific findings include yellow dots, black dots, short regrowing vellus hairs, coiled hairs, and broken hairs (trichoptilosis) [13]. Figure 6 shows all trichoscopic findings of trichotillomania.

The common differential diagnosis of trichotillomania in children and their differentiating points are as follows:

- Alopecia areata (classical): Sudden in onset, round to oval, well-defined patches, association with autoimmune disorders, hair pull test around the margins is usually positive. Other clinical findings include gray hairs, exclamation mark hairs, kinking of hairs,



Figure 5: The cycle of repetitive hair pulling in trichotillomania.

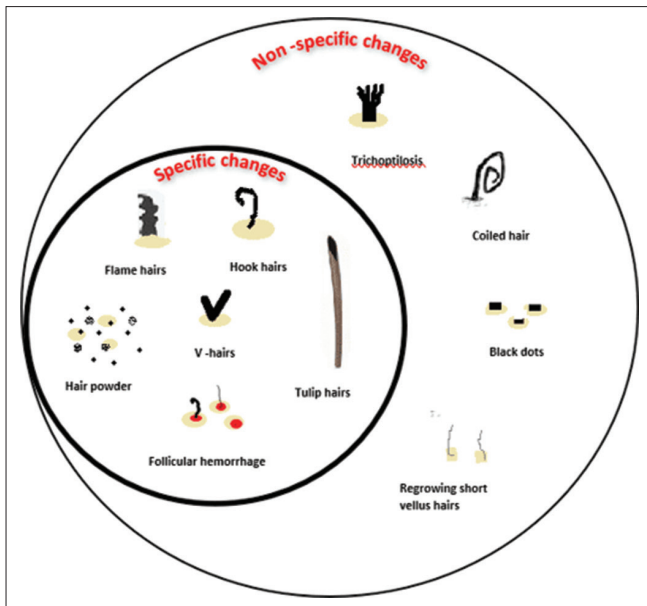


Figure 6: Various types of tinsures in trichotillomania.

curled hairs. Good response to immunosuppressants and contact sensitization is seen. Histopathology shows the swarm-of-bees appearance.

- Tinea capitis: Black dot/gray patch variety, hair is weak and comes off easily when plucked, gradual in onset and slowly progressive, elsewhere on the body may show the presence of dermatophytosis, wood's lamp shows bluish-green, dull yellow, or dull blue fluorescence (all *Microsporum* species and *Trichosporum schoenleinii* are fluorescent) [14]. KOH mount and culture may be used to confirm the diagnosis.

Management of trichotillomania may be done by behavior therapy (habit reversal therapy), in which there is awareness training, stimulus control procedures, self-monitoring (patient tracking their behavior of hair pulling). The benefits obtained from these programs are usually maintained for around six months. However, combination therapies work even more effectively. Other therapies for trichotillomania include hypotherapy, psychotherapy, and pharmacotherapy (SSRIs are commonly used). Other drugs such as neuroleptics, amitriptyline, imipramine, sertraline, and buspirone have also been successfully used, yet response rates vary among individuals and the severity of the disease [16]. N-acetyl cysteine at a dose of 1200 mg/day twice a day worked well in a double-blinded, randomized control trial with minimal side effects [17].

The prognosis is good in children with trichotillomania whereas it is poor in adults with co-existent psychiatric disorders. Hair regrowth occurs once the behavior is reversed.

Consent

The examination of the patient was conducted according to the principles of the Declaration of Helsinki.

The authors certify that they have obtained all appropriate patient consent forms, in which the patients gave their consent for images and other clinical information to be included in the journal. The patients understand that their names and initials will not be published and due effort will be made to conceal their identity, but that anonymity cannot be guaranteed.

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