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Trichotillomania is chronic obsessive compulsive disease with a diagnostic hair loss patterns

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ABSTRACT

Background: Trichotillomania (TTM) is a common cause of childhood alopecia. It's a traumatic alopecia and is defined as the irresistible urge to pull out the hair, accompanied by a sense of relief after the hair has been plucked. The condition maybe episodic and the chronic type is difficult to treat. There seem to be an increase in the prevalence of the condition probably due to the changing life style into a more stressful one.

Objective: To do full evaluation of this disease and description of hair loss patterns.

Patients and methods: In this descriptive study, we collected patients with trichotillomania who had attended department of dermatology, college of medicine, university of Baghdad, Baghdad teaching hospital during the period from 2011 through 2019 where 114 cases of TTM were seen. The diagnosis was established on clinical basis after exclusion of other dermatological diseases and medical problems. Full history was taken from each patient including demographic data, presence of stressful life event as a triggering factor. Psychological assessment was carried out for each patient by experienced dermatologist as psychiatric referral was refused by all patients and their families. Full description of patterns of hair loss was carried out after exclusion of other causes of hair loss especially alopecia areata.

Results: A total of 114 patients diagnosed with TTM were enrolled in this study, 88 (77.19%) patients were females and 26 (22.8%) males with female to male ratio: 3.38:1 . Age of patients ranged from 6 - 65 years with a median age of 16 years with the commonest age range between 10-19 years in 64 (56.14%) patients. While the duration of the condition ranged from 3 months to 4 years.

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Family history was positive in 6 (5.3%) patients, all of them were first degree relatives. Psychological evaluation showed obsessive compulsive neurosis in all patients and all patients or parents denied their action.

Patients usually presented with areas of different hair lengths. Some hairs may be broken mid-shaft or appeared as uneven, whereas others had small black dots at the surface of the scalp, these features simulating fire in field but no exclamation mark hair were seen. There is usually no scaling on the scalp and the hair does not pull out easily.

The affected area often had a strange shape, which had a useful diagnostic clue. The hair loss in TTM can take many shapes; morphological forms or patterns and as follow: crest like in 2 patients (1.75%) both of them were females in the 2nd decade of life, there was loss of hair at the sides of the scalp leaving the frontovertical and occipital area not affected, the second pattern so called cap like were found in 39 patients (34.21%), most patients were in the second decade of life, there was a hair loss at the top of the scalp mainly frontovertical area and leaving the sides of the scalp, the third pattern alopecia areata- like, where multiple patches of hair loss were seen in 20 (17.5%) patients, the fourth pattern frontal baldness like seen in 19 patients (16.66%), where the patients presented with complete hair loss of the frontal hair only.

While the fifth pattern was the generalized (TTM totalis) type were seen in 19 (16.66%) patients all of them were females. Involvement of the eyebrows and eyelashes alone were seen in 6 (5.26%) patients, most of them were females, all but one in the first and second decade of their lives. Mixed patterns were seen in 8 (7.01%) patients all of them were females in their second decade and as follow: frontal plus eyebrows involvement was the most common in 5 patients, followed by frontal plus patchy patterns in 2 patients, then totalis plus eyebrow in one patient. Only one patient was presented with beard involvement.

Conclusion: TTM is disease of young female children with obsessive compulsive neurosis that presented with different patterns of hair loss that run chronic course . It is a debilitating disorder to the patients with emotional struggle as have to endure the embarrassment and shame of hair loss. A better understanding and awareness of the disorder is certainly the first step toward recognizing this disorder and management of these patients.

Key words Trichotillomania, hair pulling disorder, obsessive compulsive neurosis, hair loss patterns.

1. Introduction

Trichotillomania (TTM) “hair pulling disorder”, was first described by Hallopeau in 1889, is a disorder that is characterized by the

incontrollable urge to pull out one’s hair^[1]. It is classified under “Obsessive Compulsive and Related Disorders” along with obsessive-compulsive disorder (OCD), excoriation

disorder, body dysmorphic disorder, and hoarding disorder in the Diagnostic and Statistical Manual of Mental Disorders, DSM-V [2].

The prevalence of TTM has been explored in smaller studies, mostly in college settings. However, epidemiological studies of trichotillomania are lacking. The overall frequency is probably underestimated because denial of the disorder is frequent as patients are often ashamed of and embarrassed about their condition and many patients do not seek professional intervention. In the United States, individual studies based on questionnaires administered to college students have estimated the lifetime prevalence of trichotillomania to be around 0.6% [3]. Another study estimates that approximately 1%–2% of the general population are affected by trichotillomania [4].

Trichotillomania commonly affects the scalp. The other common regions are eyebrows, eyelashes, pubic area, face, and less frequently other body hair [5]

Usually the hair is plucked from one frontoparietal region, which is on the side of manual dominance, with sparing of the temporal and occipital regions. Typically the hairs are short, irregular, broken at various distance and distorted. Commonly, an ill-defined patch develops in most patients, but the full scalp may be involved. Less severely affected patients may have only small areas of baldness or imperceptible thinning over the entire head. [6]

Several studies suggested the role of serotonin and dopamine dysfunction in the pathophysiology of TTM [7]. Patients pull out the hairs because of irrefractable urge and accompanying anxiety. And many patients report the hair pulling as being pleasurable. Patients commonly try to conceal the alopecia with creative hair styling wigs, hair pieces, and constant use of hats or bandanas, makeup or false eyelashes. [6] The chronicity of this disorder is supported by studies reporting that alopecia had been present on average 4 to 20 years before presentation. [8]

This present work presents our observations of 114 patients seen over an eight years period and reviews the literature on TTM.

2. Patients and methods

In this descriptive study, 114 patients with trichotillomania who had attended department of dermatology, college of medicine, university of Baghdad, Baghdad teaching hospital during the period from 2011 through 2019; were seen. Informed consent was taken from each patient before starting the study, after full explanation about the goal of the study. The diagnosis was established on clinical basis depending on the current diagnostic criteria for trichotillomania: 1) recurrent pulling out of one's hair, resulting in hair loss; 2) repeated attempts to decrease or stop hair pulling; 3) the hair pulling causes clinically significant distress or impairment in social, occupational, or other important areas of functioning; 4) the hair pulling or hair loss is not attributable to another medical condition (e.g., a dermatological condition); and 5) the hair pulling is not better explained by the symptoms of another mental disorder (e.g., attempts to improve a perceived defect or flaw in appearance in body dysmorphic disorder) [2]. Detailed history was taken from each patient including demographic data, presence of stressful life event as a triggering factor and. Referral to psychiatry department was refused by the all patients and their families accordingly psychological assessment was carried out for each patient and psychotherapy was offered by experienced dermatologist who has great interest in psychiatry. Full description of patterns of hair loss was carried out after exclusion of other causes of hair loss especially alopecia areata

3. Results

A total of 114 patients diagnosed with TTM were enrolled in this study; 88 (77.19%) patients were females and 26 (22.8%) were males with female to male ratio: 3.38:1. Age of patients ranged from 6 - 65 years with a median age of 16 years with the commonest age range between 10-19 years in 64 (56.14%). Table 1.

The duration of the condition ranged from 4 months to 4 years. All patients after psychological evaluation showed obsessive compulsive neurosis and all patients initially denied their action.

Family history TTM in the first degree relatives was positive in 6(5.3%) patients.

Patients usually presented with areas of different hair lengths as some hairs may be broken mid-shaft or appeared as uneven, whereas others had small black dots at the surface of the scalp, these features simulating fire in field. but no patient presented with exclamation mark hair commonly seen in alopecia areata. There is usually no scaling on the scalp and the hair does not pull out easily.

The affected area with hair loss often had a strange characteristic shape, which had a useful diagnostic clue and this hair loss can take many morphological shapes or patterns, (table 2)and as follow: crest like in 2 patients (1.75%) both of them were females in the 2nd decade of life, there was loss of hair at the sides of the scalp leaving the frontovertical and occipital area not affected (Figure 1; a and b). The second pattern so called cap like were found in 39 patients (34.21%), most patients were in the second decade of life, there was a hair loss at the top of the scalp mainly frontovertical area and leaving the sides of the scalp (Figure 1; c and d). The

third pattern alopecia areata- like, where multiple patches of hair loss were seen in 20 (17.5%) patients (Figure 2; a and b). The fourth pattern frontal baldness like seen in 19 patients (16.66%), where the patients presented with complete hair loss of the frontal hair only (Figure 2; c and d).

The fifth pattern was the generalized (TTM totalis) type which were seen in 19 (16.66%) patients all of them were females (Figure 3; a and b) . Involvement of the eyebrows and eyelashes alone were seen in 6 (5.26%) patients, all but one were females in the first and second decade of their lives (Figure 3; c and d). Mixed patterns were seen in 8 (7.01%) patients most of them were females in their second decade (Figure 4; a) and as follow: frontal plus eyebrows involvement was the most common (5 patients), followed by frontal plus patchy patterns (2 patients), then totalis plus eyebrow (one patient). Only one patient (0.9%)was presented with beard involvement(Figure 4; b) . Table 2 shows age group relation to the number of cases of trichotillomania. The highest frequency appeared to be between 10 and 29 years age group.

Accordingly the commonest patterns were cap-like,34.21%,patchy in17.5%,totalis in 16.66% and frontal pattern in 16.66%.

Table 1 showing age group in relation to the number of cases of trichotillomania

Age group	Number of patients with trichotillomania and percentage
0-9 years	8 (7.01%)
10-19 years	64 (56.14%)
20-29 years	21 (18.42%)
30- 39 years	9 (7.89%)
40-49 years	7 (6.14%)
50-59 years	3 (2.63%)
60-69 years	2 (1.75%)
Total no.	114

Table 2. shows the frequency of patterns of hair loss in patients with trichotillomania

Pattern	Median age yr	No. of patients and percentage	Female to male ratio
Cap-like	20	39(34.21%)	3.9: 1
Patchy	17	20 (17.5%)	1.2: 1
totalis	17	19 (16.66%)	All females
Crest- like	15	2(1.75%)	All females
Mixed patterns	13	8 (7.01%)	All females
frontal	11	19 (16.66%)	1.4: 1
the eyebrows and eyelashes alone	10	6 (5.26%)	All females
beard involvement	24	1(0.9%)	Male



Figure-1 showing (a and b) a teenage girl with a crest-like pattern TTM and (c and d) with cap-like pattern



Figure-2 showing (a and b) patchy pattern (alopecia areata- like), where multiple patches of hair loss were seen and (c and d) frontal baldness like pattern



Figure-3 showing (a and b) totalis like pattern and (c and d) involvement of the eyebrows and eyelashes alone



Figure-4 showing (a) Mixed pattern with frontal plus eyebrows and eyelashes involvement and (b) Involvement of the beard alone

4. Discussion

A chronic impulse control disorder; trichotillomania (TTM) is characterized by pulling out one's own hair, leading to noticeable and embarrassing hair loss. Up to this date, there are no large-scale epidemiological studies concerning the rates of TTM, however, it is estimated by smaller studies to affect 1–3.5% of late adolescents and young adults; rates among younger children unfortunately remain unknown^[9]. In an Iraqi study by Sharquie et al, TTM was the commonest psychocutaneous disease (53%) of a total of a 100 patients with major psychocutaneous disorders^[10] however, in a nother Iraqi study, it was 10.6 % of 47 patients with major psychocutaneous disorders^[11]. Both studies found TTM a disease of young females. Family history was reported in one patient out of a total of five patients with trichotillomania in the later study but in Sharquie et al study family history was negative in all patients with trichotillomania.^[10,11]

Psychological stress is present in everyone's life, difficulty in coping with this stress can affect the individual's health and quality of life^[12]. Because of the strong relationship between skin and mind, it has been suggested that hair pulling may regulate emotional states or stressful events. Several studies found that patients with TTM have greater difficulty regulating negative

affective states. Another theory suggests that perfectionism leads to feelings of frustration, impatience, and dissatisfaction when standards are not met, particularly when experiencing boredom because productivity is impossible. Pulling may therefore function as a means of releasing tension generated by these emotions^[13]

An Iraqi study found that obsessive compulsive disorder (OCD) can affect young age group with peak age of 21-30 years, females were predominating (63.2%). Singles were more affected than married (47.3%). Family history of OCD and any mental illness was observed in 20.5% and 52.9%, respectively.^[14]

In this present study, TTM was a major problem of young female children patients as the age of patients ranged from 6 - 65 years with a median age of 16 years with the commonest age range between 10-19 years in 64(56.14%) and this was not comparable with a previous Iraqi study where it was found to be 23.5 years^[10]. Out of 114 patients with TTM, family history was positive in 6(5.3%) patients in the first degree relatives unlike a previous study where it was negative among a total of 53 patients^[10]. Although all patients, in the present work, had suffered from OCD still no patients or parents are willing to have psychiatric referral as they consider it a stigma. Accordingly every

dermatologist should have enough experience in psychological medicine so can manage patients with emotional or psychiatric complaint.

The clinical patterns of TTM are not well reported and discussed in the medical literatures. The types of Patterns in the present study were crest- like in 1.75% versus 23.2% in a previous Iraqi study which was the most common type ^[10] suggesting that this pattern is tending to disappear for some reason or getting replaced by other patterns such as cap- like pattern which was found to be 20.8% in previous study^[10] versus 34.21% in this present study.

Another patterns of hair loss was patchy (alopecia areata- like) was found in 35.2% and frontal baldness- like in 20.8% as had been reported previously^[10] while in the present work were 17.5% and 16.66% respectively .

Emerging new patterns were recognised in the present study like generalised scalp involvement (totalis like) in 16.66%, mixed patterns in 7.01%, eyebrows and eyelashes alone involvement in 5.26% and beard involvement in 0.9% and these patterns were not mentioned previously in medical literature.

The most common patterns in males seem to be the patchy, the frontal and beard involvement compared to the rest of the patterns were the females appear to predominate.

Of notice is the Involvement of the eyebrows and eyelashes alone were seen in very young patients, all were females and all but one were in the first and second decades of their lives which is consistent with a previous study where it was found that patients with a very early onset of trichotillomania are more likely to pull eyelashes ^[15] In this study, the peak frequency of TTM appeared to be between 10-19 years age group which is consistent to a lesser degree with a previous study that found TTM to be most common presented in early adolescence, with the peak prevalence between ages 4 and 17 years.^[16]

Conclusion

Trichotillomania is a common compulsive neurosis affecting hair of young children patients commonly females and as it is a debilitating chronic disorder with emotional struggle, patients have to endure the embarrassment and shame of hair loss. Different diagnostic hair pattern loss were recognized. A better understanding and awareness of the disorder is certainly the first step toward recognizing it and treating these patients.

DISCLOSURE

This study was an independent study and not funded by any drug companies.

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