



CLINICAL, DERMOSCOPIC, HISTOPATHOLOGICAL AND THERAPEUTIC PROFILE OF TRICHOTILLOMANIA : A CASE SERIES OF 09 PATIENTS

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ABSTRACT Trichotillomania is a common form of obsessive and compulsive behavioural disorder which results in traumatic hair loss because of recurrent pulling of one's own hair, preceded by increase in sense of tension before pulling out the hair, followed by sense of relief after pulling out the hair. We present a case series of 09 patients with clinical, dermoscopic and/ or histopathologically confirmed cases of Trichotillomania in a tertiary care centre in Western India with female to male ratio 2:1 and mean age 30.78. All patients presented with alopecic patches on the scalp with dermoscopic findings of broken hair shafts of variable lengths, flame hair, coiled hair and tulip hair (polarized light using DermLite DL4, USA 10X polarized). The most common histopathological finding was increased number of hair follicle and pigmented cast. The patients were treated with combination of psychotropic medications and psychological intervention. Out of 9 patients 03 patients had recurrent disease and poor response to the treatment over a period of more than one year of follow up.

KEYWORDS : Trichotillomania, Dermoscopy, Habit reversal therapy, OCRD

Introduction

Hallopeau first coined term trichotillomania in 1889 originating from Greek thrix (hair) and tillein (pull out) and mania (madness). This is a form of traumatic alopecia and also belongs to primary psychiatric disorder.^[1] Patients who are psychologically or emotionally disturbed, vigorously pull out hair to release their tension. Hair pulling can be manifestation of various disorders like temporary habits, impulse control disorders, OCD spectrum, body dysmorphic disorder or mental retardation. In this review we refer Trichotillomania as defined by the diagnostic criteria of the American Psychiatric Association (APA) which were set forth in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorder (DSM-IV). The point prevalence of trichotillomania 0.5%-2.0% with more common occurrence in girls and women and more common in children than adults.^[2-3] There is equal sex distribution and higher mean age of onset in case of males.^[4] Scalp is the most commonly involved site.^[5]

Cognitive-behavioral therapy (CBT) with habit-reversal training (HRT) components is the most studied and effective treatment for TTM.^[6] However, the availability of trained mental health professionals to provide this treatment is limited. Pharmacological treatments have been explored as an alternative option for individuals who do not have access to trained behavioral therapists. Several medications have been studied for TTM treatment, including clomipramine and selective serotonin reuptake inhibitors, which are commonly used for obsessive-compulsive disorder.^[6] More recently, glutamatergic modulators, dopamine receptor blockers, and opioid antagonists have been studied.^[7]

Although some promising findings have been reported, there are currently no FDA-approved medications for TTM. Medications should be considered as an adjunct to CBT-HRT and not as a replacement. The most effective treatment for TTM is a combination of medication and behavioural therapy, and the decision to use medication should be made on a case-by-case basis after a thorough assessment by a qualified mental health professional. To summarize, the three main therapeutic modalities for trichotillomania that are in vogue are:

- 1) Pharmacotherapy with a selective serotonin reuptake inhibitor (SSRI)
- 2) Pharmacotherapy with clomipramine, a tricyclic antidepressant
- 3) Habit-reversal therapy (HRT)

We present a retrospective case compilation of patients with trichotillomania from a tertiary care centre in Western India focusing

on epidemiological, clinical, dermoscopic, histopathological and therapeutic profile.

Case series

The analysis includes 09 clinical and/or histo-pathologically confirmed cases of trichotillomania from 01 Jan 2021 to 30 Jun 2022. All patients underwent following set of investigations

- Dermoscopy (polarized light using DermLite DL4, USA 10X polarized)
- 20% KOH mount with hair scrapings
- Scalp biopsy 2-

Case 1: A 15 year old female, studying in class 9, had presented to Dermatology OPD with multiple patches of alopecia in scalp. She was aware of her hair pulling behaviour. Her mother suffered from Obsessive compulsive disorder and was on SSRI. Her parents did not provide consent for psychotropics. She was then treated with cognitive behavioural therapy which included habit reversal training. Regular psycho therapy sessions were conducted and she showed gradual improvement at the end of three months, there was significant reduction in hair pulling behaviour at the end of six months the alopecic patches were no longer distinguishable she continued to be in remission till the end point of the study.

Case 2: A 28 year non-working female presented with multiple alopecia patches in scalp and eyebrows. Her older sister suffered from skin picking disorder for past ten years. She had history of neurotic traits in childhood. She was on treatment for OCD for past four years. However he had never consulted a psychiatrist for TTM. Most of the time she was unaware of her hair pulling behaviour and it increased during times of stress. She was treated with Tablet Fluoxetine 60 mg and HRT. She showed good response to treatment which was evident by reduction of CGI-S score from 4 to 1 at the end of 18 months of follow up.

Case 3: A 17 year old male, student of class 11 had presented with alopecic patches on scalp. On examination multiple alopecic patches were also noticed in forearm and legs. He could conceal the alopecic patches by wearing a cap and full sleeve clothes. He was on regular treatment for depression with Tablet Fluoxetine 20 mg for past 2 years. He was managed with increasing the dose of Fluoxetine to 60 mg. there was slow and sustained improvement with complete resolution of symptoms in 5 months.

Case 4 : A 38 yr old female graduate, working professional had presented with multiple alopecia patches in scalp. There was also h/o pulling out pubic hair and eyebrows. Most of the times, she was unaware of her behaviour and had guilt for the same. She was initially treated with Tab Fluvoxamine which was increased to 200mg. Due to poor response, Tab Clomipramine was added and was increased to 150mg. She was on follow up for over a year during which she was noted to have poor self-esteem and lack of confidence with social avoidance behaviour. At the end point of the study she continued to be symptomatic with CGI –S score of 4. She is planned for augmentation with rTMS in upcoming months.

Case 5 : A 16 yr old female student had presented with repetitive hair pulling involving areas of scalp and eyebrows of 06 months duration which was precipitated before the Class X board exams. She also had h/o skin picking of 06 yr duration for which she had never sought any professional help. She refused to provide consent for medications. She was managed with HRT alone with which she showed significant improvement in 04 months' time and was asymptomatic at end of 01 yr.

Case 6 : A 47 yr old male, government employee, had trichotillomania for past 4 yrs. He was wearing a wig. He had General anxiety disorder for which he was on treatment for past 2 decades. However there was history of multiple instances of non-adherence to therapy and was not on follow up for past 5yrs. He was treated with Tab Fluvoxamine 150mg which was later augmented after 3 months with Tab Risperidone 3mg in view of non-response. He was also given structured HRT sessions. He continued to be symptomatic at the end of 01yr of follow up.

Case 7 : A 29 yr old non – working female, married, with past h/o 02 depressive episodes in year 2017 and 2019, had presented with symptoms of repetitive hair pulling involving scalp hair. She wore a scarf over the head to conceal her symptoms. On evaluation she had significant depressive symptoms with BDI –II score of 21. She was mostly unaware of her hair pulling behaviour. She was treated with Tab Sertraline 150mg and HRT. Her depression remitted in 03 months and her TTM remitted in about 8 months. She was followed up for another 2 months during which she was asymptomatic.

Case 8 : A 31yr old male, with no past or family h/o psychiatric illness had presented with symptoms of repetitive automatic hair pulling of 01yr duration involving scalp and body hair. He was initially treated with Tab Clomipramine 75mg, which was increased to 175mg over 04 months due to sub –optimal response. There was reduction CGI –S score from 6 to 2 in 10 months. He had minimal impairment with satisfactory response at end of the study.

Case 9 : A 56 yr old female, with h/o panic disorder on treatment for past 5yrs, suffered from TTM for past 2 years. He was mostly aware of his behaviour and areas of scalp was mostly involved. He had narcissistic personality traits. There was significant distress due to his symptoms which had led to gross socio – occupational dysfunction. He was managed with Tab Fluoxetine 80mg which was augmented with Tab Clomipramine 75mg after 3 months due to poor response. He is on follow up for only 8 months now and has shown poor response. He is planned for change of medication to SDA and glutamnergic agents. He is also scheduled for HRT.

Epidemiological, clinical, dermoscopic and histopathological profile

Patient characteristics, demographic profile & treatment profile of the cohort are summarised in Table no 1 06 patients were females, 03 were males. The minimum age of the patient included in our report is 15 years and maximum age is 56 years. The patients were examined clinically and graded according to NIMH trichotillomania scale.^[8] Hair scraping was done with 20% KOH which showed no fungal involvement. Dermoscopy was done using polarized light using DermLite DL4, USA 10X.



Figure 1: Clinical image & Dermoscopic image on initial visit of Patient 1 showing hairs broken at different length, tulip hairs (red arrow), V-sign (blue arrow) & coiled hair (green arrow)



Figure 2: Clinical image & Dermoscopic image of patient 1 on follow up showing hairs broken at different length & different morphology. Punch biopsy samples were taken from scalp for histopathological examination.

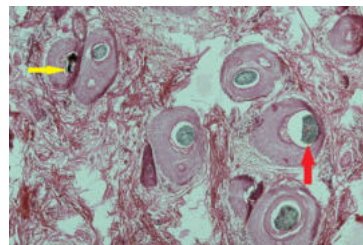


Figure 3: Photomicrograph (H&E stain) in 10X magnification-increased percentage of catagen & telogen hair, Empty anagen follicle with pigment cast (yellow arrow) & distorted hair follicle anatomy (red arrow) & avulsed hair follicle in 20X

The dermoscopic & histo-pathological findings are summarised in Table no 2.

Trichotillomania can be classified based on the way in which the hair pulling behaviour occurs a) Focused trichotillomania: In this type, individuals are aware of their hair pulling behaviour and do it deliberately and intentionally and b) Automatic trichotillomania: In this type, individuals may not be aware of their hair pulling behaviour, and may do it unconsciously or automatically, as a habit or reflex.⁹ 04 of our patients were focussed subtype and 05 were predominantly automatic subtype. 05 of these patients had family h/o Obsessive compulsive and related disorders in their 1st degree relatives. 06 patients had co – morbid syndromal psychiatric illness. 03 patients had depressive episode and 01 each had Obsessive compulsive disorder, Skin picking disorder, Generalized anxiety disorder and Panic disorder. Patients were given benefit of either SSRI, Clomipramine, Risperidone, HRT or a combination of above. 05 patients were on combination of these modalities of treatment. Most of the patients (n=6) were on SSRI, which is most frequently prescribed drug in these patients and has good tolerability profile. 03 patients were on Tab Clomipramine and 01 patient was on Tab Risperidone. 02 patients less than 18 yrs of age and their parents did not consent for psychotropic medication. They were exclusively on Habit reversal training. Duration of follow up in these patients ranged from maximum of 18 months to minimum of 8 months.

We used Clinical Global Impressions-Severity (CGI-S) scale which is a standardized assessment tool used by healthcare professionals to evaluate the severity of a patient's mental health symptoms.^[10] The CGI-S assesses a patient's current level of functioning and symptom severity using a 7-point scale ranging from 1 to 7, with lower scores indicating less severe symptoms and higher scores indicating more severe symptoms. The scale takes into account the patient's behaviour, thoughts, feelings, and physical symptoms, and assesses the overall impact of these symptoms on the patient's functioning and quality of life. 05 of our patients showed good response to intervention which was accessed clinically and also by reduction of CGI – S score.

DISCUSSION

Trichotillomania is a rare form traumatic alopecia and also belongs to the category of Primary psychocutaneous disorder with commoner occurrence in young aged girls characterised by bizzare areas of hair loss due to forceful pulling or plucking of hair.^[1] Most common

dermoscopic findings were broken hairs with variable shaft length and tulip hair. Comparing with a study by Rakowska et al., it was observed that irregularly broken hair shafts were found in 100% of their cohort but flame hairs were found in 25% of their cohort compared to 100% of our study.^[1]

On histo-pathological examination, alopecia was noted in all of the cases which is similar to the findings of study by Bergfeld et al.^[2] Other specific histo-pathological findings were trichomalacia in 22.2% cases, pigmented casts noted in 55.5% of cases and perifollicular haemorrhage noted in 22.2% which are similar to study by Bergfeld et al.^[2]

Two – third of our cases were females which is akin to majority of published case series which has shown predominant female preponderance. This study found that 04 patients (57%) of patients with TTM responded positively to pharmacological intervention with SSRIs and/or other agents. 02 patients who were on HRT which is a form of Cognitive behaviour therapy responded well to the intervention, suggesting a greater role of HRT for all patients of TTM. A systematic review conducted in 2007 demonstrate that HRT, when practiced by experienced clinicians in academic research settings, is the most effective intervention for trichotillomania.^[3] However there are still many important clinical questions that remain to be answered regarding HRT in TTM. HRT involves three main components: a) Awareness training: This involves teaching individuals with TTM to become more aware of their hair-pulling behaviors and the triggers that lead to them. Self-monitoring techniques, such as keeping a diary or using a smartphone app, can help individuals identify when they are most likely to pull their hair. b) Competing response training: This involves developing alternative behaviors that physically prevent hair pulling whenever individuals feel the urge or begin to pull their hair. For example, individuals may be taught to clench their fists, squeeze a stress ball, or engage in deep breathing exercises instead of pulling their hair. c) Social support and involvement of significant others: This component of HRT involves enlisting the support of family members, friends, or other significant individuals to help individuals with TTM adhere to the treatment plan. This may involve providing encouragement, helping with self-monitoring, or reinforcing the use of competing responses.

While HRT has been shown to be effective in treating TTM, it is unclear whether its effectiveness is due to specific elements of the therapy or simply the fact that patients are receiving attention and support from a therapist. Further research is needed to determine whether HRT is more effective than other types of therapy that provide similar levels of attention and support. 03 of our patients failed to show adequate response despite all our efforts. 02 of these patients were predominantly focussed subtype of TTM with late age of onset of symptoms and with co-morbid anxiety disorder which is known to have poorer prognosis.^[4]

The major strength of the study is the longer duration of follow up. Limitations in our study were relatively small sample size for deriving statistically significant inferences, non-exclusion of psychiatric co-morbidities and presence of residual confounders/ bias.

Conclusion

Trichotillomania is a rare subset of Obsessive compulsive spectrum disorder with challenging treatment profile and more research in Indian scenario is needed. This study aims to contribute to the existing literatures and promote timely intervention can significantly improve patient's quality of life.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal.

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Nil.

Conflict of interest

There are no conflicts of interests.

Table 1 : Patient demographic profile, characteristics and treatment profile

Sl no	Sex & Age at presentation	NIMH Trichotillomania severity scale	Focus sed/Automatic	Fami ly H/o OCR D	Com obid psy diagn osis	CGI –	Psycho therapeutic intervention	Dura tion of follo w – up (end point)	CGI – S scor e at end poin t
1	F, 15yrs	11	Focus sed	Yes	No	6	HRT	18	2
2	F, 28yrs	10	Auto matic	Yes	OCD	4	Tab Fluoxetine 60mg HRT	18	1
3	M, 17yrs	06	Auto matic	No	Depr ession	5	Tab Fluoxetine 60mg	16	2
4	F, 38yrs	16	Auto matic	No	No	5	Tab Clomip ramine 150mg Tab Fluvox amine 200mg	15	4
5	F, 16yrs	09	Focus sed	No	Skin pick ing	6	HRT	13	1
6	M, 47yrs	08	Focus sed	Yes	GAD	6	Tab Fluvox amine 150 mg Tab Risperi done 3 mg HRT	12	4
7	F, 29yrs	11	Auto matic	Yes	Depr ession	5	Tab Sertrali ne 150 mg HRT	10	1
8	M, 31yrs	09	Auto matic	No	No	6	Tab Clomip ramine 175mg	10	2
9	F, 56yrs	13	Focus sed	Yes	Panic disorder	7	Tab Fluoxetine 80mg Tab Clomip ramine 75mg	8	4

Table-2: Histopathological & dermoscopic features of patients

Dermoscopic findings {Figure 1 & 2 }	
Hairs broken at different length	09 (100)
Tulip hair	07 (77.8)
Flame hair	05 (100)
V-sign	05 (55.6)
Coiled hairs	08 (88.9)
Histopathologic findings {Figure 3 }	
Increased number of hair follicles	09 (100)
Trichomalacia	02 (22.2)
Pigmented casts	05 (55.5)
Perifollicular haemorrhage	02 (100)

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