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**CASE SERIES**

# Trichotillomania as a Rare Comorbidity of Delusional Parasitosis: A Case Series

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**Abstract**

Delusional parasitosis is a type of delusional disorder characterized by an unwavering false belief that their skin is infested by parasites despite repeated negative medical evidence or reassurance by clinicians. Trichotillomania is an obsessive compulsive and related disorder where there is repetitive pulling of hair with an increased tension before and a sense of relief after pulling out hair. Combination of these two disorders as a comorbidity is rare and less reported in literature. The Author presents a case series of three cases with their common characteristics, clinical presentation and treatment given. All three cases received a combination of risperidone and fluoxetine with improvement of symptoms.

**Keywords:** Trichotillomania, Delusional parasitosis, comorbidity

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## Introduction

Delusional parasitosis is also known as delusional infestation or Ekbom syndrome. It is classified as primary, secondary and organic forms [1]. It was initially named by Wilson and Miller in 1946 [2]. The term Ekbom syndrome was given by Karl Axel Ekbom, a Swedish psychiatrist [3]. It is a Psychodermatological disorder which includes disorders prevailing on the boundary between psychiatry and dermatology [4]. Delusional disorder is a relatively uncommon disorder with mean age of onset of about 40 yrs and higher female preponderance [5]. The lifetime prevalence of delusional disorder is 0.2% (DSM-5). In India, literature suggests a prevalence of 1% with the prevalence of delusional parasitosis being 0.5% [6].

Trichotillomania was first documented by a French dermatologist Francois Hallopeau in 1889 [7]. It is a body focused repetitive behavior which is characterized by recurrent pulling of one's hair, unsuccessful attempts to decrease or stop hair pulling resulting in significant hair loss. Scalp, eyebrows and eyelids are the most common sites. It can result in variable hair loss- complete alopecia/ thinning of hair density. Most common age of onset is early adolescence. Automatic hair pulling is engaging in this behavior outside one's awareness. It is more common in children and adolescents [8]. It is also a Psychodermatological disorder just like delusional parasitosis.

Literature shows case reports, case series and original articles on delusional parasitosis and trichotillomania individually. Comorbidity in Delusional disorder is often noticed, with considerable proportion of patients having affective disorders [9]. Similarly, 79% of people with trichotillomania had one or more psychiatric comorbidities. The most common being anxiety/depressive disorders, OCD, PTSD, and ADHD [10]. But literature on delusional parasitosis with comorbid trichotillomania is rare with only few case reports. The author presents a case series of three patients of primary delusional parasitosis with this rare comorbidity. The study was approved by the Institutional Human Ethics Committee, Aarupadai Veedu Medical College, Vinayaka Mission's Research Foundation (VMRFDU), Puducherry, India. Written informed consent was obtained from all three patients with identity concealment and anonymity. All three cases were diagnosed as per ICD- 11 criteria.

## Case 1

A 56yr old uneducated, widowed female, coolie by occupation from lower socioeconomic status and rural background was referred from dermatology OPD with chief complaints of Insects crawling over scalp, face and entire body, Itching over scalp and body, plucking out hairs over scalp with patchy hair loss and sleep disturbance for 2 yrs. Symptoms were worse during night compared to day when she used to go for work. She had history of multiple consultations with dermatologists and was reported to have nil dermatological disorders and was referred to psychiatry several times for further treatment. But she refused treatment in psychiatry. Her family members and her colleagues had never encountered insects over her scalp or body though she used to pluck from her scalp and try to show

the insects to them. She used to claim that these insects looked like lice but are much smaller and are black in color. Due to intense itching she used to scratch her scalp and to relieve from this sensation she started plucking her hair from scalp. Eventually once crawling and itching sensation aggravated, she started having an intense urge to pluck her hair which would give her temporary relief for few minutes and again symptoms would reappear. Due to aggravated symptoms at night, she also had difficulty in initiating and maintaining her sleep. She had tonsured her hair in scalp several times to get rid of the insects, but her symptoms used to persist. After counselling by psychologists in dermatology OPD she then came to psychiatry for treatment. At the time of presentation, she had patchy hair loss over scalp with varying length of hair in parietal region (R>L). No other areas of hair loss were seen in any other parts of body. She was a known hypertensive for 7yrs and was on regular medications (Amlodipine 5mg). She had bilateral sensorineural hearing loss and was on hearing aid for last 8yrs. She lost her husband 7 yrs back to decompensated liver disease due to alcohol and was living with her son and family. General and systemic examination were normal and mental status examination revealed depressed mood and affect, delusion of infestation and tactile hallucinations with absent insight. Complete blood count, renal function test, fasting and post prandial blood sugar, ECG, thyroid function test, CT brain was normal. She was started on Risperidone 2 mg and gradually increased to 4 mg with Fluoxetine 20 mg. With treatment, she was symptomatically better and did not have any episodes of plucking hair. Hence fluoxetine was stopped and risperidone was continued. But on follow up she had poor compliance to medications with adequate socio occupational functioning.

**Case 2**

A 48yr old married male, educated till 5$^{th}$ std, carpenter by occupation, from lower socio-economic status came with complaints of insects crawling over face and scalp, plucking hair from eyebrows, sleep disturbance for 3yrs. His symptoms started after he shifted to a new home due to debt issues in family and separation from wife and children 3yrs back. He lived alone and was not allowed to talk to or meet his children by his wife. Symptoms initially started with itching of scalp for which he took symptomatic treatment from dermatologists but as there was no relief and aggravation of itching, he consulted multiple dermatologists. In next few months he started having crawling sensations over scalp and face and when he scratched his scalp, he claimed that he saw whitish lice like insects in his nails. Since then, he used to wash his hair daily to remove insects from scalp and face and used to sweep his home frequently claiming that he had to throw away the insects fallen on floor. He then started to pluck his hair from eyebrows due to intense itching and to remove the insect from hair and over a period of days he started having an intense urge to pluck his eyebrows which would bring him brief relief resulting in hair loss in eyebrows. He was a known case of alcohol dependence syndrome but was abstinent for the next 3 yrs till date, after the onset of itching. The symptoms were not due

to withdrawal or delirium or alcohol induced psychotic disorder as per history. He had no medical comorbidities and nil significant family history. He came to the OPD with a cover and picked whitish particles from the bag claiming insects which he swept that morning. Hair loss in eyebrows was present. General and systemic examination were normal. Mental status examination revealed depressed mood and affect, delusion of parasitosis, tactile hallucinations, ideas of hopelessness and helplessness, no suicidal ideas. His routine blood investigations, thyroid profile and CT brain were normal. He was started on Risperidone 2mg which was then increased to 4mg and fluoxetine 20mg. He improved with medications but is on irregular follow-up and does not have significant impairment.

**Case 3**

A 45yr old women, educated (bachelor's degree), divorced, unemployed from low socioeconomic status came with complaints that small sized snakes keeps crawling and biting her body for 11/2 yrs. She was living with her unmarried brother 2 yrs back when she started complaining of multiple somatic symptoms and planned to take herbal treatment. As their home was far away from treatment center, they used to spend nights in bus stand and sleep in pathways. One night she claimed that a snake bit her. She was hospitalized and evaluated but was reported not to have any snake bite. Since then, she started claiming that snakes of small size have entered her body and crawl and bite her body throughout the day. As she was not manageable at home, she was sent to an old age home where proper care for inmates including food, drinking water was not given and her symptoms aggravated. She also started plucking her hair from scalp and eyebrows to remove the snakes but eventually she started pulling out her hair without much awareness. She could not explain if she had any urge to pluck her hair and if she experienced any relief. Her entire body had scratch marks and she had weight loss due to lack of proper availability of food. She used to keep crying throughout the day due to her symptoms and consulted 2 dermatologists with no relief of symptoms and hence was brought to hospital. She initially resisted psychiatric consultation but later agreed. There was no history of any medical comorbidities or significant family history. She was admitted and dermatologist opinion was sought to rule out any skin disorders. She was thin built and poorly nourished on admission and had scratch marks throughout the body with multiple areas of irregular hair loss over scalp and eyebrows. She was pallor and systemic examination was normal. Mental status examination showed depressed mood and affect and delusion of infestation, anhedonia, ideas of hopelessness, helplessness, tactile hallucinations with absent insight. Her routine blood investigations showed Hb-8mg/dl and others were within normal limits. CT brain and thyroid profile were normal. She was started on Risperidone 2mg, and the dose was increased to 8 mg, trihexyphenidyl 2 mg, fluoxetine 20 mg. She showed improvement in symptoms during hospitalization but was on irregular follow-up with mild impairment in daily functioning.

**Discussion**

The common findings in all 3 cases were onset above 45 yrs, lower socio-economic status, multiple dermatological consultations, resistant to take treatment from psychiatrist due to lack of insight, lack of partner (divorced/separated/widowed), irregular follow-up, affective symptoms and trichotillomania. In a psychosocial study done by Tandon et al. among delusional parasitosis patients, the predominant psychosocial factors observed were age above 50 yrs, female preponderance, married, illiterates, rural population, lower and lower middle socioeconomic class, onset of illness in months May-October, abnormal personality traits (obsessional personality traits in more than one third of population) [11]. Munro had observed other psychosocial factors associated with delusional disorders such as separation, divorce, non-marriage and strained interpersonal relationship [12]. Many of these factors are also seen with our 3 patients. Neither did we evaluate personality through standard tools for these patients, nor did we find any abnormal personality traits in our history. But surprisingly, the literature evidence of obsessional personality traits in delusional parasitosis patients kindles the interest to link trichotillomania, though rare comorbidity, requires further research in future.

We started all three patients on a combination of risperidone and fluoxetine. All 3 patients showed improvement in symptoms which is, their distress due to the delusional belief of infestation reduced but delusion did not disappear completely. The same clinical characteristic has also been commented on in literature stating that response to treatment means less complaining, less focused and less likely to act out of delusions [13]. But long-term response could not be established because of the irregular follow up. However, there were no episodes of trichotillomania after initial improvement in symptoms. Pimozide is no longer considered as first choice in delusional disorders because of drug interactions and QTc prolongation [13]. Bhatia et al. in his case series report on 50 delusional parasitosis had found that antipsychotic treatment resulted in high positive response rate in these patients with risperidone being the most frequent medication followed by olanzapine [14]. Combination of psychotropic drugs are common in delusional disorder as it is frequently associated with depressive and anxiety symptoms [15]. This is implicated in our three patients.

Treatment of trichotillomania requires a multidisciplinary approach including psychotherapy and pharmacotherapy. Current evidence shows cognitive behavioral therapy as the most efficacious treatment for trichotillomania, particularly Habit reversal therapy. The other treatment options are usage of AEMD (Awareness Enhancing and Monitoring Device), internet therapy, microneedling. The pharmacological agents used are SSRIs, clomipramine, N-Acetyl cysteine, memantine, olanzapine, naltrexone, dronabinol, MAO inhibitors [16]. In our 3 cases, symptoms of trichotillomania were associated with delusion and disappeared with pharmacotherapy before planning for CBT.

**Limitations**

No standardized assessment tools were used to assess the severity or diagnosis other than ICD 11. All 3 cases had irregular followup. Hence implication of treatment from this case series requires further studies with long term follow up and standardized assessment tools.

**Conclusions**

Delusional parasitosis is a rare disorder and requires proper liaison and multidisciplinary approach. In majority, it is associated with comorbid affective disorders but association with trichotillomania is rare. There are no definite treatment guidelines for delusional disorders as it lacks evidence from RCTs. This case series shows combination treatment with atypical antipsychotic and SSRIs improves both delusional symptoms and trichotillomania.

**Statements and Declarations**

**Conflicts of interest**

The authors declare that they do not have conflict of interest.

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