Trichotillomania in childhood: A case series

ABSTRACT
Trichotillomania is a psychodermatological disorder characterized by an uncontrollable urge to pull one's own hair. It is often associated with depression and obsessive–compulsive disorder. We report five cases, a young male and four females, who presented with an increased desire to pluck out their hair, leading to large patches of baldness. Despite distinct forms of presentations and different comorbidities, the management more or less remained the same.

Keywords: Alopecia, compulsive behavior, impulse control disorder, trichotillomania

CASE REPORTS
Case 1
A 14-year-old girl came with a history of plucking her own hair for the last 1 year, leading to large patches of baldness affecting her looks. There was no history of any precipitating factors. She started having an itchy sensation on scalp and an irresistible desire to pluck out hair in that region and remove the tissue at the root of the hair. Otherwise, she would feel restless [Figure 1]. She would hide and pluck out her own hair when relatives prevented her. Occasionally, for a brief period of time, she would pluck her brother's hair even saying she feels a compulsion to do so. Dermatological opinion showed no local cause for itching sensation. There was family history of schizophrenia in grandfather and uncle and bipolar disorder in aunt. She was treated with fluoxetine 80 mg and buspirone 20 mg. Augmentation with pimozide 2 mg was done. In addition, behavioral therapy (BT) consisting

Trichotillomania (TTM) is characterized by persistent hair pulling behavior, resulting in noticeable hair loss. The disturbance in behavior is not accounted for by another mental disorder and is not due to a general medical condition. It causes significant distress or impairment in social, occupational, or other important areas of functioning. Clinical studies suggest that the prevalence of TTM varies from 0.6% to 3% and is more common in females.

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of Jacobson’s Progressive Muscular Relaxation (modified for children), deep breathing exercises, distraction techniques, response prevention, thought-stopping, and diary maintenance was also started. She has been educated about the type of her illness and about her contribution in the treatment process. Over a period of 3 months, she showed 50% improvement in symptoms [Figure 2].

Case 2
A 10-year-old male illiterate child, belonging to low socioeconomic status, from rural area was brought to the psychiatry outpatient department (OPD) with patchy hair loss due to pulling out of hair by the child. He was born at full-term normal delivery at home. The patient had a high fever 2 days after birth which continued for 8 days. He started walking at 2½ years of age and talking one or two words at 3 years of age. He has not been able to achieve toilet training yet and soils his clothes at times. The patient had been slow in learning things since childhood; however, for the past 5 years, he has started showing aggressive and abusive behavior, roaming around aimlessly with disturbed sleep and appetite. For the past 1 year, he has also started pulling out his hair and eating it at times leading to patchy hair loss [Figure 3]. At present, the patient is able to talk in short sentences, climb stairs, go around in his neighborhood, and eat and drink on his own. He is unable to read or write and cannot relate experiences and cannot be trusted with money. The patient had a social quotient of 21, indicating severe level of retardation in social functioning. He had an IQ of 27, indicating severe level of retardation in intellectual functioning. He was started on fluoxetine 10 mg and risperidone 1 mg but was lost to follow-up.

Case 3
A 6-year-old Hindu girl child, belonging to a small town, was brought in by her parents to the psychiatry OPD with the complaints of a bald patch on the vertex of her head due to her pulling out her own hair. She was a full-term normal vaginal delivery with no antenatal or postnatal complications. She was immediately breast fed and it was continued exclusively till 8–9 months. Her mother was 28 years old at the child’s birth. The motor milestones were achieved at an appropriate age, but her speech and social milestones were delayed. She could only make cooing sounds by 3 years of age, communicated with her parents by sign language, and never making eye contact. They also saw repetitive movement in the form of running around in circles, and she was extremely sensitive to certain kinds of touches and textures. This is when her parents first took her to a doctor, and she was diagnosed with autism spectrum disorder with moderate severity of symptoms. They tried putting her in a school at the age of 4 years, but she could not adjust there and has been home since then.
After almost 2 years, they again attempted to reintegrate the kid into a school, and this is when she started having symptoms of irritability and pulling out her own hair from her scalp for the last 2–3 months, leading to a bald patch on the vertex of her scalp [Figure 4]. She pulled out the hair and threw it on the floor and was seen doing it repeatedly even after her parents asked her not to. Other than that, she had no crying spells and her sleep and appetite were well maintained. On examination, the child was fidgety, uncooperative, and only comfortable on her mother's lap. She did not initiate any eye contact and constantly tried to go out of the examination room as she was probably uncomfortable with the new setting. Her IQ/DQ testing was planned, started on syrup fluoxetine, and referred for occupational and sensory stimulation therapies. An assessment to quantify the severity of autism spectrum symptoms was also planned. Unfortunately, as the patient due to logistical reasons, the patient could not come to the same hospital for follow-ups and the improvement could not be assessed.

Case 4

A 4-year-old girl child, Hindu by religion, was brought to the psychiatry OPD by her mother. She was the elder of the two siblings, second also being a girl aged 2½ years. She was a full-term normal vaginal delivery, with no antenatal or postnatal complications in the pregnancy. Cried immediately after birth, all milestones were achieved at appropriate ages till date. She was exclusively breast fed till 6 months of age and then gradually weaned off. When she was around 1½ years old, the mother became pregnant again. This second pregnancy was unplanned, and her mother could not manage taking care of herself and the toddler. Feeling overburdened, mother shifted to her own parents place which was in a different village altogether. The primary care taking responsibility of this child was hence shifted abruptly from the mother to the grandmother when the child was almost 2 years of age. Grandmother remembered that initially she noticed that this girl became very irritable and would cry often, especially demanding for her mother to come back. The family would try to arrange meetings with the mother, but they were not very frequent. Gradually, she adjusted with the mother’s absence, but her temperament changed altogether to being very stubborn and throwing temper tantrums, which made it extremely difficult for the family members to manage. This was the time the family first noticed that she would be seen pulling out her hair from the head, especially by her left hand. Most of the time, she threw away the hair immediately after plucking it; however, sometimes, she was seen smelling it before throwing. There was never a history of eating the hair or putting it in the mouth. There was no particular situation or time when she would do it. If asked or pointed out the same, the child would immediately deny doing it. This girl was often yelled at or shouted at by her family members for this behavior; she would cry aloud for a little while when that happened but soon went back to her normal self. The hair plucking behavior continued even after the mother came back to stay with them and even she could not keep it in check. It soon progressed to such an extent that the whole left half of the head had very little hair and there was a distinct demarcation between the right and the left side [Figure 5]. Her parents also said that she would not be welcome to play with the kids in her neighborhood as they would find her weird looking. Hence, overtime, she had reduced going out to play as well. This, the parents felt, often made her mood irritable and would sometimes burst out crying on minimal provocation. On examination, she had significant hair loss on the left side of the scalp. No other abnormalities were detected. All her vitals were within normal limits. On mental status examination, she did not reveal any features suggestive of anxiety, depression, or psychosis. Her intelligence seemed average with no insight into her illness. She denied pulling

Figure 4: Patchy loss of hair in Case 3

Figure 5: Hair loss over left side of head
out her hair even though she did acknowledge the fact that her family members often keep yelling at her for the same. The child was very shy and it was difficult to establish rapport. The child was started on syrup fluoxetine 10 mg and sent for a Children’s Apperception Test (CAT) test to look for any depressive or anxiety features. Unfortunately, the parents did not get the child for follow-up.

**Case 5**

A 14-year-old girl presented to the surgery department with a history of central abdominal pain, colicky type, associated with vomiting, constipation, and weight loss for 2 months of increasing severity and frequency. The patient was fully conscious when examined and mild dehydration was noted. Her body mass index and vitals were within normal range. On inspection, there was an asymmetrical abdominal distension. On palpation, her abdomen was soft, with a left hypochondriac intra-abdominal immobile mass, extending to her epigastric region, measuring about 12 cm × 8 cm. The mass was well defined with round edges and smooth surfaces and was not tender. On further evaluation, a microcytic anemia was detected. An abdominal X-ray showed a well-defined, rounded soft tissue density mass in her central abdominal region, with calcification [Figure 6]. An abdominal ultrasound showed a central abdominal oval lesion, with peripheral calcification and gaseous bowel distension; the lesion was not related to her liver or spleen. Computed tomography scan abdomen reported an inflated stomach filled with matter of heterogeneous density, probably bezoar [Figure 7], confirmed by upper gastrointestinal endoscopy. The bezoar was surgically removed by an anterior gastrotomy, and an existent gastric ulcer biopsy revealed the presence of human hair [Figure 8]. On psychiatric evaluation, she mentioned that on occasions, “I tend to become very nervous sometimes, and when that happens, I have an irresistible urge to pull out my hair.” Hair pulling was predominantly from the scalp, but she also pulled hair from eyebrows, eyelashes, abdomen, limbs, and pubic area. She would bite off the root of the hair and then swallow it. The patient was treated with 40 mg of fluoxetine daily and supportive psychotherapy along with the treatment of anemia with iron supplements and dietary consultation. She had significant improvement in mood and reduction in hair pulling which was maintained after discharge.

**DISCUSSION**

TTM was first described in 1889 by Hallopeau. It is currently ranked among the habit and impulse control disorders.[2,3] Age at onset varies from 9 to 13 years and is more common in females. TTM with trichobezoar is more common in adolescent females as was seen in our case 5.[4,5] The main differential diagnosis is alopecia...
areata which affects the same gender and age group and sometimes has very similar clinical features. In TTM, there are typically two distinct types of hair pulling behavior observed namely automatic and focused. Automatic type usually occurs outside of the awareness of the person, and focused pulling is often in response to a negative emotional state or intense thoughts and urges. Often, children fall in the automatic category, and hence, they can hardly ever remember actually pulling out their hair, but they mostly accept having played with them or are noticed to do so in a trance-like disengaged state. As age increases, the children become more aware of their urge for hair pulling, and hence, their capacity to refrain from doing the same reduces. Most of the time, parents hardly ever notice their children pulling out or playing with their hair. This is probably because of the fact that most patients tend to pull out hair when they are in a more relaxed environment or when playing by themselves.

The etiology of TTM in children can be based on a wide range including familial problems, bullying, poor performance, and parental issues at home. Hence, TTM may be just a symptom of some other underlying psychopathology. This diagnosis is usually a diagnosis of exclusion after a dermatological examination. Any child presenting with nonscarring hair loss needs to be evaluated in detail depending on the pattern of the loss and the type of hair growth. A dermatological examination is a must. In a typical case of TTM, hair pull test is negative at the border of the lesion, and dermatoscopy reveals hair of different length which is irregularly coiled. A team of doctors in Singapore devised a set of six questions to help facilitate the information gathering when children present with nonscarring hair loss. The questionnaire consisted of a set of six specific questions based on 5 “W” and 1 “H” principle as follows: (1) Who is the child and who has referred him, (2) Where is the hair loss – which sites? (3) What other problems are associated? (4) When did the hair loss occur? (5) Why did the hair loss occur? and (6) How to investigate and treat the hair loss? Following this kind of approach can help the clinicians not miss out anything relating the hair loss including the causes and the possible outcomes of TTM.

Apart from the cosmetic aspect, TTM affects a number of aspects of the child’s life. In a survey done among children and adolescents suffering from TTM, almost 55.6% of parents reported that their child avoided social events as a direct result of pulling. According to the children, almost 54.9% of the child sample revealed that TTM made it more difficult to study and 36.1% reported that their ability to do well academically was impaired as a direct result of pulling. Overall, the results from this survey indicated that hair pulling had a moderate and mild effect on academic and occupational functioning, respectively.

BT is the mainstay of management in pediatric TTM. A randomized controlled trial showed that BT has significant reduction in the hair pulling symptoms and that benefits of this mode were sustained after treatment. Having said that, therapy for TTM still lacks scientific evidence and is based on case reports. Most of the clinicians treating pediatric TTM are in a dilemma because they have to try to convince parents for treatment options which do not specifically treat the TTM symptoms but are probably effective only for the secondary psychopathology. Some strategies used include psychotherapy and drugs such as lithium, Tricyclic Antidepressants (TCAs), Selective Serotonin Reuptake Inhibitors (SSRIs), and antipsychotics. Recently, N-acetyl cysteine has been proposed as an effective alternative treatment since the drug restores the extracellular glutamate concentration in the nucleus accumbens (low levels of extracellular glutamate concentration have been held responsible for the pathogenesis of compulsive behaviors, including TTM).}

**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. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.

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