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Case Report

Dermatology Section

Trichoscopic Overlap of Trichotillomania Superseding Alopecia Areata: A Report of Two Cases

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ABSTRACT

Trichoscopy is a non invasive tool useful for diagnosis of dermatoses on hair bearing skin. Alopecia Areata (AA) is a common non scarring alopecia with varying aetiologies including autoimmune and genetic factors. Trichotillomania (TTM) is a psychocutaneous dermatosis characterised by compulsive hair plucking leading to hair loss at accessible sites. Trichoscopy can be used for diagnosing both these dermatoses at an early stage due to presence of distinct trichoscopic signs. Authors hereby intend to report two cases presenting with a trichoscopic overlap of trichotillomania superseding alopecia areata. First case was of a 27-year-old male presented with patchy hair loss for three months over scalp. On clinical examination, the case appeared to be of AA with involvement of three well-defined patches on the scalp, though trichoscopy suggested an overlap of AA with TTM. On probing patient gave a history of stressors predominantly of unemployment due to Coronavirus Disease-2019 (COVID-19) pandemic but denied the history of compulsive hair pulling, indicating that TTM must have superseded patches AA. The second case was a 20-year-old female presenting with a single patch of hair loss over mid scalp. There was atrophy in the centre and easy pluckability at borders. Trichoscopy yet again suggested an overlap of AA with TTM. The patch of AA was persistent in the patient giving rise to depression and anxiety which had probably provoked hair plucking. TTM and AA are two distinct clinical entities but can be simultaneously present in patients. Trichoscopy can be indeed helpful for diagnosis in such cases. Treatment modalities should therefore address both these conditions in such cases for better outcomes.

Keywords: Anxiety, Burnt-matchstick sign, Mace hair, Pohl-Pinkus constrictions, Stress, Tulip hair

CASE REPORT

Case 1

A 27-year-old male, engineer by profession, visited the Dermatology Outpatient Department with circumscribed, non scarring patchy hair loss for three months with history of a similar episode three years back. He was treated with intralesional steroids for the previous episode with complete resolution. However, he now had a relapse. There was involvement of the frontoparietal area, vertex and occiput [Table/Fig-1a,b]. There was no evidence of erythema, scaling, bogginess or easy pluckability. Except for the occipital patch, other sites showed hair breakages at varying levels. A trichoscopy was performed and the following features were revealed perifollicular haemorrhage, numerous microexclamation mark hairs, white and black dots, short vellus hairs, hair coudability, tulip hairs, burnt matchstick sign, trichoptillosis, v-sign [Table/Fig-2].

These characteristic signs showed a definite overlap of Trichotillomania (TTM) and Alopecia Areata (AA). The patches over frontoparietal area and vertex showed an overlap, but the occipital patch had feature suggestive of only AA. Owing to these findings, further exploring to find out history of stressors was done. It was observed that the patient was currently unemployed post Coronavirus Disease-2019 (COVID-19) pandemic. This could have been a trigger for compulsive hair plucking though patient denied history of such behaviour. As the occipital alopecic patch did not show features suggestive of TTM, intralesional triamcinolone acetonide (10 mg/mL) at that site for two sessions three weeks apart was administered. He subsequently returned with partial resolution of his occipital patch after a month. The patient was also referred to the Psychiatry Department. He was counselled and started with amitriptyline hydrochloride 10 mg daily to which he started responding well. Subsequent trichoscopic evaluation showed marked decline in features of TTM and was primarily suggestive of AA. Injection triamcinolone acetonide was administered at other sites as well. Topical mometasone furoate 0.1% cream and betamethasone weekend pulse therapy of 5 mg/day for four weeks was prescribed, to which the patient showed good response.

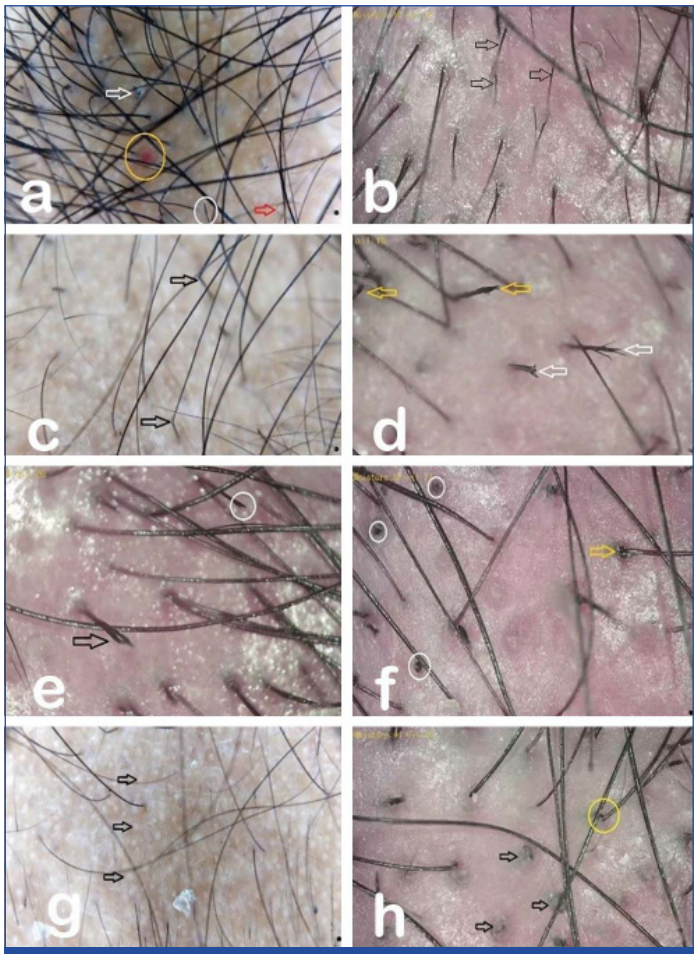
[Table/Fig-1]: Clinical image of case; a) Alopecia areata patch over the occiput; b) Circumscribed patch of hair loss with breakages at various levels seen at the vertex.

Case 2

A 20-year-old female presented with a single alopecic patch on the mid scalp for one month [Table/Fig-3]. There was atrophy in the centre and easy pluckability of hairs at the borders. Trichoscopy was performed. Striking overlap of TTM and AA was observed. Trichoscopic features included hair coudability, white dots, microexclamation mark hairs, perifollicular haemorrhage, trichoptillosis, Pohl-Pinkus constrictions, mace hairs and v-sign [Table/Fig-4].

History of stressors was obtained from the patient. Her behaviour was slightly eccentric. The history was primarily conveyed by her sister. Patient was married recently. The hair loss was insidious in onset and started after marriage. She was anxious about the condition and therefore subsequently might have developed the habit of hair manipulation. Psychiatric counselling was sought for and the patient was also started on escitalopram (5 mg) and clonazepam (0.5 mg) combination to which she responded well.

Serial trichoscopies showed decline in features of TTM. Patient was then initiated on topical mometasone furoate 0.1% cream and intralesional triamcinolone acetonide (10 mg/mL) two sittings, three weeks apart to which good response was noted.



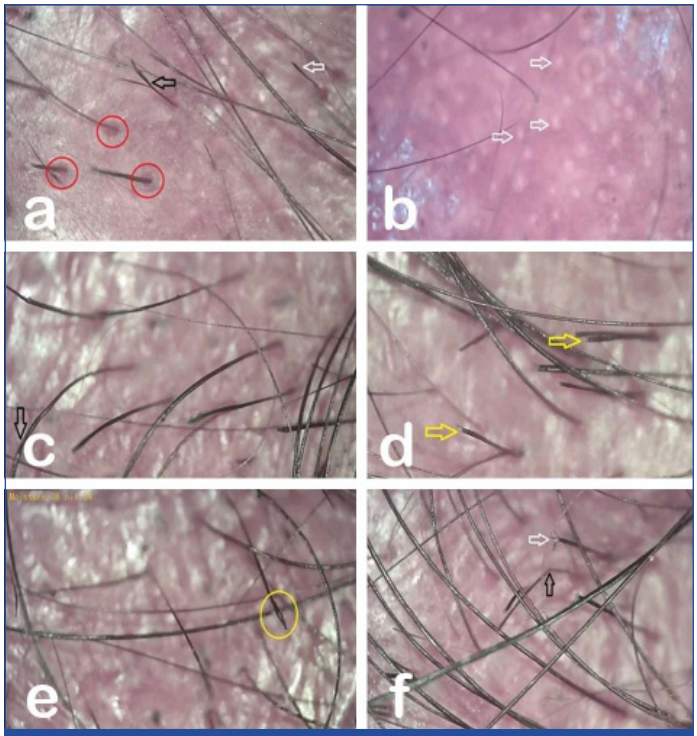
[Table/Fig-2]: Trichoscopy (non contact, polarised, 20x magnification); a) White arrow: Hair Powder; Yellow circle: Perifollicular haemorrhage; White circle: Tulip hair; Red arrow: Short vellus hairs; b) Black arrows: Multiple microexclamation mark hairs are seen; c) Black arrows: Hair coudability sign seen; d) White arrows: Trichoptillosis; Yellow arrows: Tulip hair; e) Black arrow: V-sign; White circle: Trichoptillosis; f) Yellow arrow: Burnt matchstick sign; White circles: Black dots; g) Black arrows: Multiple white dots seen; h) Black arrows: Black dots; Yellow circle: Fractured hair shaft.

[Table/Fig-3]: Clinical image of case 2. Lesion is seen involving the mid scalp.

DISCUSSION

Trichoscopy is useful in the diagnosis of numerous scalp dermatoses. The non invasiveness and presence of specific clues towards a disease marks its advantage.

Trichotillomania is a psychocutaneous dermatosis in the obsessive compulsive disorder spectrum characterised by recurrent and compulsive hair pulling with no underlying medical condition or mental disorder that explains hair loss/pulling. Anxiety and depression



[Table/Fig-4]: Trichoscopic images of case 2; a) Red circles: Perifollicular haemorrhage; Black arrow: Trichoptillosis; White arrow: Microexclamation mark hair with surrounding perifollicular haemorrhage; b) White arrows: Multiple white dots; c) Black arrow: Pohl-Pinkus constrictions; d) Yellow arrows: V-sign; e) Yellow circle: Mace hair; f) Black arrow: Hair coudability; White arrow: Trichoptillosis.

and the most common causes predisposing in individual for hair plucking. Clinically patient presents with patchy hair loss with hair breakage at varying levels. There can be presence of associated inflammation [1].

Alopecia areata is a disorder of perifollicular inflammation leading to no scarring alopecia which is triggered due to several factors. Genetic causes (*HLA-DQB1* and *HLA-DRB1*) and autoimmune factors (association with other autoimmune disorders like vitiligo, lupus erythematosus) are predominantly responsible for the causation. There is a loss of immune privilege to the anagen follicles which triggers perifollicular inflammation and resultant alopecia [2].

The clinical presentations of TTM and AA are perplexing at times, thus making trichoscopy essential. Distinct clinical signs have been reported in literature for diagnosing these two entities. Characteristic trichoscopic signs can aid in early disease identification and initiation of therapy [3].

Specific clues to the diagnosis of alopecia areata [3,4]:

- Hair coudability sign: Proximal kinking of hair shaft due to increased hair shaft fragility as an outcome of underlying inflammation.
- Pohl-Pinkus constrictions (Monilethrix-like hairs) [5]: Presence of progressive and irregular constrictions of the hair shaft which are vulnerable to hair breakages. This sign is characteristic of AA.
- Short vellus hairs: Hair regrowth is observed with presence of short vellus hairs in alopecia areata and other forms of non scarring alopecia.

Specific clues to the diagnosis of trichotillomania [6]:

- Perifollicular haemorrhage: This is a specific trichoscopic finding in relation to TTM giving a clue to the possible aetiology. Recurrent hair pulling and plucking results in microhaemorrhages around the infundibulum and perifollicular area. This is seen trichoscopically as perifollicular haemorrhage. Multiple foci of perifollicular haemorrhage are suggestive of TTM.
- V-sign: When two hair shafts emerging from a single follicle are plucked simultaneously, there results in breakage of the shafts at the same level.

- Tulip hairs: These hairs are characterised by short lightly pigmented proximal shafts but prominent bulbous pigmented tips, resembling a tulip flower.
- Mace hairs [7]: The hair shafts are pigmented throughout their length with a darkly pigmented distal tip.
- Hair powder: This sign portrays remnant of the sprinkled hair residue due to prolonged manipulation.
- Burnt matchstick sign [8]: Darkly pigmented bulbar proximal tip with a linear hair shaft of varying diameter and length resembling a burnt matchstick. The proximal bulge is due to the pulled-up hair follicle after constant traction.

Trichoscopic features common to AA and TTM:

- Micro-exclamation mark hairs: Hair shafts seen trichoscopically with proximal thinning at its emergence from the scalp and distal thickening is referred to as exclamation mark hairs. Their presence is indicative of disease activity.
- White dots: A pigmented scalp often features pinpoint white dots which correspond to follicular and eccrine ostia. White dots in AA frequently harbour cadaverised hairs.
- Black dots: Mature hair shafts broken off at the level of the scalp appear as black dots. They are indicative of a fragile hair shaft integrity.
- Trichoptillosis/split ends: Longitudinal splitting of the hair shafts at the distal end is termed as trichoptillosis.

Few additional signs seen in TTM are hook hairs, flame hairs and zigzag hairs with considerable diagnostic significance.

There has been a report of a 6-year-old boy with concurrent presence of AA and TTM by Brzezinski P et al. The authors have reported occurrence of exclamation mark hairs, dystrophic hairs, black and yellow dots and short vellus hair suggestive of AA. Simultaneously there were numerous coiled hairs and perifollicular haemorrhages noted over the scalp at few other sites suggestive of TTM [9]. The findings of our case are similar, but with colocalisation of trichoscopic features of TTM and AA at the same alopecic patches in both cases. The present case bears significance as a number of these signs were present synchronously.

CONCLUSION(S)

Alopecia areata is associated with gross social stigma. TTM therefore seems to supervene in such cases due to impending anxiety. Trichoscopy acts as a guide in such cases of diagnostic dilemma. Presence of specific signs will aid in clinching the diagnosis, though further studies are warranted. Scalp is a notorious site where multiple pathologies may co-exist and clinicians must have an eagle's eye. A dermatologist must be well acquainted with these clues and must encourage and endorse the utility of trichoscopy.

REFERENCES

[1] Parakh P, Srivastava M. The many faces of trichotillomania. Int J Trichol. 2010;2:50-52.
[2] Seetharam KA. Alopecia areata: An update. Indian J Dermatol Venereol Leprol. 2013;79:563-75.
[3] Ankad BS, Naidu MV, Beergouder SL, Sujana L. Trichoscopy in trichotillomania: A useful diagnostic tool. Int J Trichol. 2014;6:160-63.
[4] Jain N, Doshi B, Khopkar U. Trichoscopy in alopecias: Diagnosis simplified. Int J Trichol. 2013;5:170-78.
[5] Lobato-Berezo A, Olmos-Alpiste F, Pujol RM, Saceda-Corralo D. Pohl-Pinkus constrictions in trichoscopy. What do they mean? Actas Dermosifiliogr. 2019;110:315.
[6] Elmas ÖF, Metin MS. Trichoscopic findings of trichotillomania: New observations. Postepy Dermatol Alergol. 2020;37:340-45.
[7] Malakar S, Mukherjee SS. 'Mace sign'- A definitive sign of trichotillomania? Our Dermatol Online. 2017;8(4):491-92.
[8] Malakar S, Mukherjee SS. Burnt matchstick sign - A new trichoscopic finding in trichotillomania. Int J Trichol. 2017;9:44-46.
[9] Brzezinski P, Cywinska E, Chiriac A. Report of a rare case of alopecia areata coexisting with trichotillomania. Int J Trichology. 2016;8:32.

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