

## CASE REPORT

# A Case of Alopecia Areata Mimicking Trichotillomania

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## ABSTRACT

Alopecia areata (AA) is a common dermatological disease characterized by patchy areas of nonscarring alopecia. Sometimes, differentiating patchy AA from trichotillomania (TTM) can be difficult. We report a case of AA mimicking TTM.

**Keywords:** Alopecia areata, Trichotillomania, Tulip hair.

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## INTRODUCTION

Alopecia areata (AA) and trichotillomania (TTM) are common diseases with hair loss encountered in clinical practice. Alopecia areata is considered to be a hair-specific autoimmune disease, which typically presents with nonscarring alopecia in a circular shape showing exclamation mark hairs.<sup>1</sup> Trichotillomania is a form of traumatic alopecia caused by an irresistible compulsion to pullout one's own hairs, classically leaving bizarre-shaped area(s) of hair loss with broken hairs of different lengths.<sup>1</sup> Trichoscopic features of AA are characteristic, however, not pathognomonic as these features can be seen in other scalp disorders also, therefore, in cases where doubt exists, an investigation, such as a scalp biopsy is required for a more accurate diagnosis. In this case report, we have described the frequency of various trichoscopic features of alopecia.

## CASE REPORT

A 35-year-old woman came with complaint of area of hair loss over frontal scalp since a month. She denied any history of hair pulling. No history of any psychiatric illness was present. On examination, a well-defined

single patch of hair loss of 3 × 4 cm was present over frontal scalp at midpartition. There was no associated erythema or scaling over patch. Few broken hairs were present over patch (Fig. 1). On trichoscopic examination of alopecia patch done by HEINE NC1 dermatoscope, tulip hairs, miniaturized hair, and few broken hair were seen (Fig. 2). Exclamation mark hair or black dots were absent. Trichogram showed tulip flower-shaped hyper pigmented distal ends of hair shaft (Fig. 3). Based on clinical and trichoscopic features, differential diagnosis were kept as TTM and AA. To make a definitive diagnosis, biopsy was done from margin of alopecia patch with a 4 mm punch. The H&E section showed peribulbar lymphocytic infiltrate (Figs 4 and 5). Histopathological findings confirmed the diagnosis of AA.



**Fig. 1:** A well-circumscribed patch of alopecia over frontal scalp



**Fig. 2:** Few hair with dilated hyperpigmented distal ends

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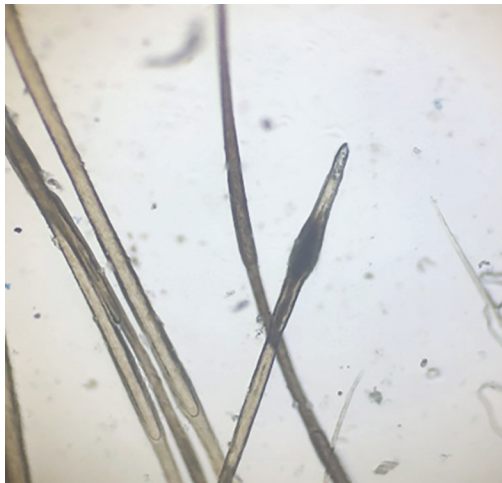


Fig. 3: Trichogram representing tulip hairs

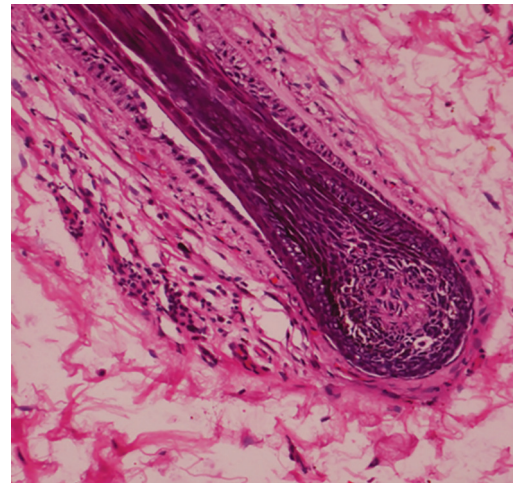


Fig. 4: The 10× peribulbar infiltrate

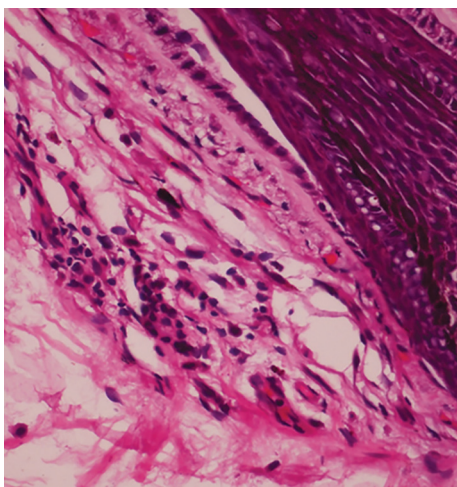


Fig. 5: The 40× lymphocytic peribulbar infiltrate

## DISCUSSION

Alopecia areata and TTM are commonly encountered disorders of hair loss in clinical practice. Both conditions share similar clinical features and overlapping trichoscopic features.<sup>1</sup>

Alopecia areata generally presents as round or oval patches of alopecia, whereas in TTM patches tend to be asymmetrical, geometrical or in unusual patterns; however, round patches may also be present in TTM, making diagnostic confirmation difficult.<sup>2</sup> The hair pull test is a useful semiotic element, which, if negative, favors a diagnosis of TTM. In AA, it is positive, particularly along the edges of patches in active disease.<sup>2</sup>

Trichoscopic features frequently observed in AA are:

- Yellow dots (empty follicles with keratin plugging)<sup>1,3,4,5</sup>
- Exclamation mark hairs and tapered hairs (normal-looking hairs with tapering at the proximal end)<sup>1,2</sup>

- Clustered short vellus hairs<sup>1,3,5</sup>
- Nonpigmented vellus hair<sup>1</sup>
- Angulated hair is a novel term introduced to describe fractured hairs forming a sharp angle along the hair shaft, regardless of the amount of fracture sites.<sup>1</sup>

Common trichoscopic signs of TTM:

- Tulip hairs are short and have darker, tulip flower-shaped ends. These hairs are characteristic for TTM, however, may also be observed in AA. These are hairs in which pulling caused a diagonal fracture.<sup>6</sup>
- Broken hairs, which show extreme variability in length and morphology.<sup>1,6</sup>
- Coiled hairs occur in response to a pulling force; a hair shaft fractures and the remaining, distal part, which is fixed to the scalp, may contract and coil. This produces coiled hairs, which are irregular in shape and frequently have features of trichoptilosis (split ends).<sup>2,6</sup>
- Flame hair is a type of proximal hair residue, which remains attached to the scalp after pulling anagen hair.<sup>6</sup>
- *V sign*: When two hairs emerging from one follicular opening are broken at equal level, the V sign is created. Partial coiling of the distal part of fractured hairs results in a hook-like appearance (also highly characteristic for TTM).<sup>6</sup>
- *Hair powder*: In TTM, hair shafts may be totally damaged by mechanical manipulation and only sprinkled "hair powder" is visible.<sup>6</sup>

Exclamation mark hairs and tapered hairs have been widely believed to be characteristic for AA,<sup>1,3,7</sup> nevertheless, these features have been reported in TTM, traction alopecia, and postchemotherapy alopecia.<sup>6,7</sup> In a study by Khunkhet et al, exclamation mark hairs were demonstrated in 26% of the TTM patients.<sup>1</sup> In TTM, exclamation mark hairs more often tended to have a flat distal end and a pigmented proximal end. In AA, exclamation mark hairs



more commonly had an uneven, ragged, distal end, and a hypopigmented proximal end.<sup>4</sup> However, both types of exclamation mark hairs can be observed in both diseases. Angulated hair is a novel term to describe fractured hairs forming a sharp angle along the hair shaft.<sup>1</sup> In a study by Khunkhet et al, angulated hairs were not seen in any patients with TTM; therefore, it is suggested to be the most specific feature of AA. Nonpigmented vellus hairs have been reported to be a characteristic feature of AA. However, nonpigmented vellus hairs were observed in TTM cases also in a case study by Khunkhet et al.<sup>2</sup> Broken hairs of different lengths, trichoptilosis, V sign (two broken hairs at the same length emerging from the same follicle) are related to mechanical trauma, and hairshaft fractures from shearing force. These features are seen in both TTM and AA.<sup>1,2,4</sup> Flame hair sign is also related to mechanical trauma and previously it was considered as an exclusive feature of TTM,<sup>1</sup> however, this notion was later disapproved by Miteva and Tosti.<sup>5</sup> Tulip hairs are short hairs with darker, tulip flower-shaped ends. These hairs develop when a hair shaft fractures diagonally. They are characteristic for TTM, however, may be also seen in AA.<sup>1</sup> In a study by Rakowaska et al, tulip hairs were seen in TTM (48%) and 10% of AA.<sup>4</sup>

As AA and TTM have overlapping features on trichoscopy, it is of paramount importance to analyze various trichoscopic findings together with histopathological examination to establish the diagnosis.

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