

Dermoscopic clues to distinguish trichotillomania from patchy alopecia areata *

Pistas dermatoscópicas para diferenciar a tricotilomania da alopecia areata em placa

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Abstract: BACKGROUND: Trichotillomania and patchy alopecia areata have similar clinical and dermoscopic features.

OBSERVATIONS: In trichotillomania, dermoscopy shows decreased hair density, short vellus hair, broken hairs with different shaft lengths, coiled hairs, short *vellus* hair, trichoptilosis, sparse yellow dots, which may or may not contain black dots and no exclamation mark hairs.

CONCLUSIONS: In the case of patchy alopecia and broken hairs, the absence of exclamation mark hairs suggests a diagnosis of trichotillomania. On the other hand, the finding of yellow dots without black dots does not exclude it.

Keywords: Alopecia; Anxiety disorders; Dermoscopy; Differential Diagnosis; Nail biting

Resumo: INTRODUÇÃO: Tricotilomania e alopecia areata em placa possuem características clínicas e dermatoscópicas semelhantes.

OBSERVAÇÕES: O exame dermatoscópico da tricotilomania revela densidade capilar diminuída, cabelos fraturados em diferentes tamanhos, enovelados e *vellus*, tricoptilose, pontos amarelos com ou sem pontos pretos e ausência de cabelos em "ponto de exclamação".

CONCLUSÃO: No contexto de alopecia em placa e cabelos fraturados, a ausência de "pontos de exclamação" sugere o diagnóstico de tricotilomania. Por outro lado, o achado de pontos amarelos sem pontos pretos não afasta o mesmo.

Palavras-chave: Alopecia; Dermosopia; Diagnóstico diferencial; Hábito de roer unhas; Transtornos de ansiedade

INTRODUCTION

Trichotillomania is a compulsive disorder characterized by the patient's habit of pulling out his/her own hair, generally from the parietal and vertex regions.¹ The disorder most often affects female children and adolescents, who generally deny the habit. This condition resembles alopecia areata (AA), since both disorders are initially non-scarring and may be patchy. At dermoscopy, characteristics that are common to both conditions include the presence of short

vellus hairs, dystrophic hair and black and yellow dots.² A key diagnostic finding in patients with AA that is considered pathognomonic by some authors is exclamation mark hair.^{2,3}

Considering that prognoses and treatment are different in trichotillomania and AA, it would be useful to be able to establish these differences using non-invasive methods such as dermoscopy, since histopathology may be inconclusive and the biopsy

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procedure traumatic, particularly in children.

With respect to the dermoscopic characteristics of these conditions, little has been published on trichotillomania,⁴⁻⁶ the majority of articles referring to AA.^{2,3,6-8}

OBSERVATIONS

Examination of the scalp of patients with trichotillomania generally reveals asymmetrical patches of alopecia, particularly in the frontal and vertex regions. Hairs of varying lengths and short vellus hairs may be seen in these patches (Figure 1). The hair pull test is negative along the edges.

Other compulsive disorders such as onychophagia and onychotillomania, for example, may be present in patients with trichotillomania.

In AA, the clinical condition is characterized by smooth, round or oval patches of non-scarring alopecia, with the hair pull test strongly positive along the edges of these patches, particularly those in activity. Examination of the patient’s nails may reveal pitting (Table 1).⁹

In cases of trichotillomania, dermoscopy reveals abnormalities resulting from the stretching and fracture of hair shafts. Fracture may occur at varying lengths, resulting in black dots, hair broken off, either close to the hair follicles or at different distances from them, fraying hair, longitudinally split hair, coiled hair and stretching of the shaft. Other dermoscopic findings include decreased hair density, empty follicular ostia and some yellow dots that may or may not con-

tain black dots (Figure 2). Areas with signs of scratching and bleeding may also be found.

In AA, dermoscopy characteristically shows exclamation mark hairs, particularly along the edges of the patches where the activity of the disease is greater. Other dystrophic hairs formed by alterations in the hair cycle due to the inflammatory process may also be seen, including black dots or cadaverized hair, kinking hair and pseudo-monilethrix characterized by constrictions in the shaft resulting from periods of inflammatory activity in the hair follicle (Figure 3).

Short vellus hair is seen in both trichotillomania and AA; however, in AA, hairs may be white (Table 2).

DISCUSSION

Both trichotillomania and AA predominantly affect children. Establishing clinical and dermoscopic patterns is a useful way of avoiding having to perform biopsies in this young age group, with the additional complication that histopathology may be inconclusive. Onychophagia and onychotillomania may be present together with other symptoms of anxiety and may constitute part of the obsessive-compulsive disorder of the patient with trichotillomania.

AA generally presents as round or oval patches of alopecia, whereas in trichotillomania patches tend to be asymmetrical, geometrical or in unusual patterns; however, round patches may also be present in trichotillomania, making differentiation difficult.⁵

The hair pull test is a useful semiotic element, which, if negative, favors a diagnosis of trichotilloma-

TABLE 1: Differential diagnosis between trichotillomania and patchy alopecia areata

	TRICHOTILLOMANIA	ALOPECIA AREATA
Clinical history	Children around 6 years of age, no preference for gender. Impulsive/compulsive habits Anxiety symptoms	Children over 3 years of age, female Autoimmune diseases Atopic status (40%) Thyroid diseases (40%)
Clinical examination	Patches of alopecia are asymmetrical, geometrical or in unusual shapes (principally in the parietal and vertex regions). Scratches and bleeding Onychophagia and onychotillomania	Round or oval patches of alopecia Nail pitting
Hair pull test	Negative	Positive along the edges of the active lesions
Treatment	Explanation of the diagnosis Psychotherapy in special cases	Principally local immunotherapy and anti-inflammatory / immunosuppressive agents.
Prognosis	Benign and self-limiting if initiated prior to 6 years of age.	Benign and self-limiting within one year, if localized. Factors indicative of poor prognosis: family history, atopy, autoimmune disease, nails affected.

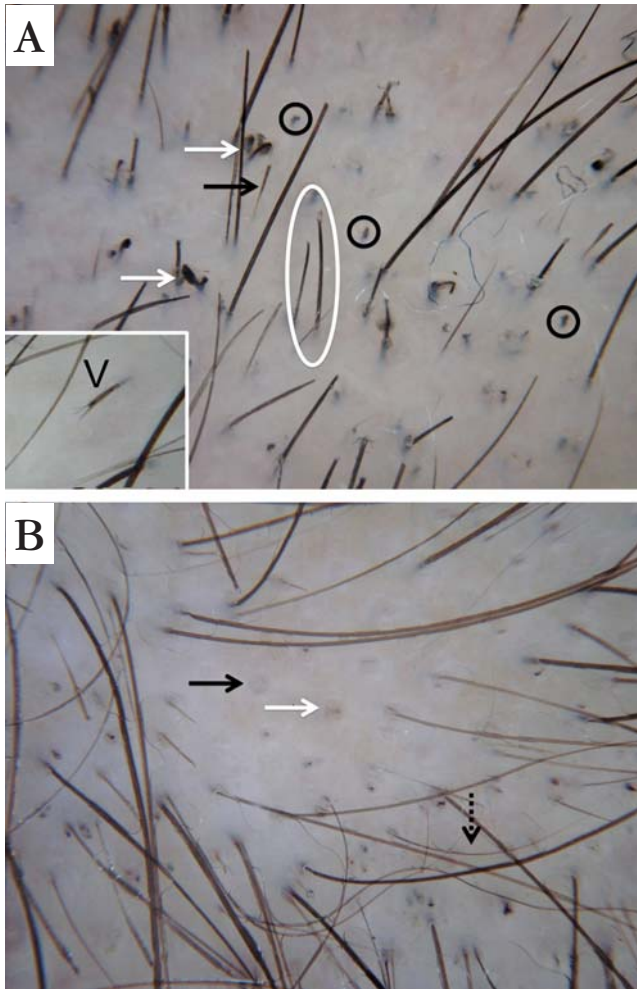


FIGURE 1: Dermoscopy in a patient with trichotillomania showing: (A) black dots (black circle), fraying ends (white circle), exclamation mark hair – similar to (black arrow), coiled hair (white arrow); (B) short vellus hair (dotted arrow), yellow dots with black dots (black arrow) and yellow dot with no black dots (white arrow) and (C) split ends (V). Dermoscopic image taken with a Sony Cybershot® W55 digital camera connected to a DermLite® handheld II Hybrid m dermatoscope, 3Gen, LLC, San Juan Capistrano, California, USA, magnification 10x

nia.⁵ In AA, it is positive, particularly along the edges of patches in activity.⁹

In cases of AA, dermoscopic findings include clusters of short vellus hairs (shorter than 10 mm), as well as yellow dots and dystrophic hair (black dots or cadaverized hair) and exclamation mark hair.^{2,3}

Ross et al. were the first to observe yellow dots in a patient with trichotillomania; however, biopsy revealed AA in the same patch.³ In the studies conducted by Inui et al., a few yellow dots were found in cases of androgenetic alopecia and in trichotillomania. These authors suggest that in trichotillomania all the yellow dots should contain the black dots that constitute the remains of the dead hair follicles, which

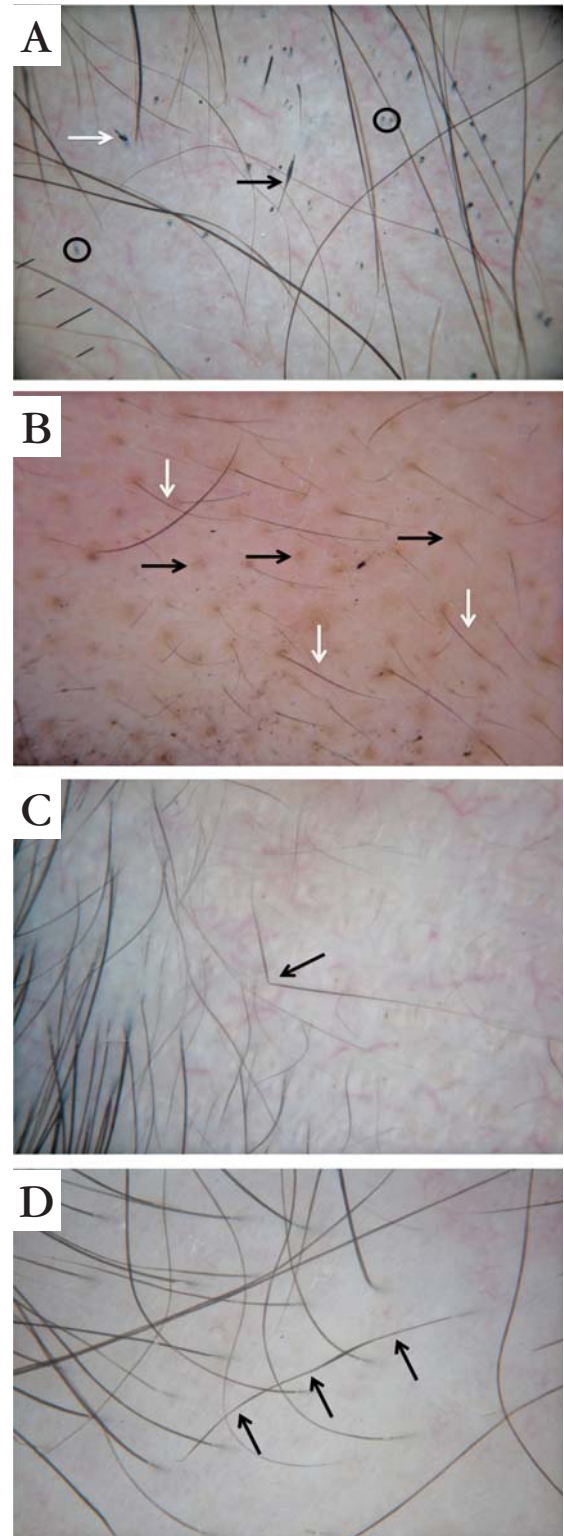


FIGURE 2: Dermoscopy in a patient with alopecia areata, presenting: (A) exclamation mark hair (black arrow), dystrophic hair (white arrow), black dots or cadaverized hair (circle); (B) short vellus hair (white arrow), yellow dots (black arrow); (C) kinking hair; and (D) pseudo-monilethrix, constrictions indicated by the arrows. Photodermoscopy performed using a Sony Cybershot® W55 digital camera connected to a DermLite® handheld II Hybrid m dermatoscope, 3Gen, LLC, San Juan Capistrano, California, USA, magnification 10x

TABLE 2: Diagnostic clues to differentiate trichotillomania from patchy alopecia areata

	TRICHOTILLOMANIA	ALOPECIA AREATA
Exclamation mark hair	Present	
Absent/similarity	Present	Present, may be white
Short vellus hair	Present	Present
Black dots	Present, few	Present, numerous
Yellow dots	Present	Present
Fractured hair	Present (highly suggestive)	Absent
Coiled hair with fraying or split ends	No particular site	Along the edges of the lesions

would differentiate this condition from AA.² Nevertheless, yellow dots without black dots may be present albeit to a lesser extent.²

The presence of black dots, coiled hair, shafts of varying lengths with fraying or split ends (trichoptilosis) and an absence of exclamation mark hairs is suggestive of trichotillomania. In accordance with the literature, this finding is considered pathognomonic of AA.^{2,3}

The hairs with fraying ends that are seen in trichotillomania may resemble exclamation mark hairs (Figure 2A), hampering differentiation between the two conditions, particularly when both trichotillomania and AA are present.

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CONCLUSION

Dermoscopy has proved to represent a useful tool for differentiating between trichotillomania and patchy AA, thus avoiding scalp biopsy, which is particularly important in the case of children. Fractured shafts are suggestive of trichotillomania, while the presence of exclamation mark hairs is indicative of AA. In cases of trichotillomania, dermoscopy may also reveal some yellow dots, not necessarily containing remnants of dead hair follicles (black dots). □

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