Case for diagnosis*

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DOI: http://dx.doi.org/10.1590/abd1806-4841.20142740

CASE REPORT

A male patient, aged 6, began to experience localized hairloss in the right temporal region three years ago, which increased progressively. The first consultation took place in 2011, during which the diagnoses of alopecia areata and congenital triangular alopecia (CTA) were made. Topical capillary was prescribed but not used. After one year, the condition remained unchanged. There were no other areas of alopecia, skin lesions, or noteworthy comorbidities. Upon dermatological examination, an area of non-scarring alopecia, approximately 3.0 x 3.0 cm, without signs of inflammation, containing extremely thin and fair hair follicles, was observed in the right temporal region (Figure 1). A dermoscopy (dermatoscope Heine® Delta 20) revealed thin *vellus*-type hairs (Figure 2). No yellow spots, exclamation mark hairs, cadaver hairs or other dermoscopic signs suggesting alopecia areata, were detected.

FIGURE 1: Area of non-scarring alopecia in the right temporal regioninterspersed with extensive cicatritial fibrous tissue

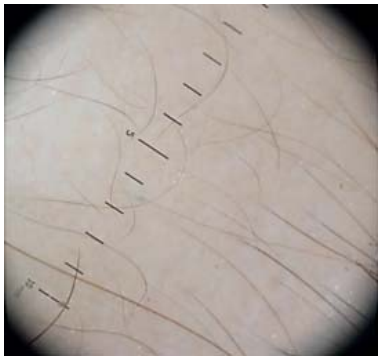

FIGURE 2: Dermoscopic image of the area with alopecia (10x magnification using a Heine® Delta 20 dermatoscope). Vellus-type hairs and terminal hairs on the periphery

DISCUSSION

CTA is an uncommon disorder, with about 74 cases reported to date. There is no gender predilection. Most cases (58.8%) appear in patients aged between two and nine, while 36.5% manifest at birth and 3.8% in adulthood.[1] The incidence in the general population is estimated to be 0.11%.[2]

In 15% of cases, it is associated with other diseases, pigmented-vascular phakomatosis being the most common.[1] Other described associations are Down syndrome, leukonychia, hip dislocation, mental retardation, epilepsy and tracheoesophageal fistula.[2]

Diagnosis is predominantly clinical. The condition appears as an area of non-scarring alopecia, with constant characteristics and a variable size, usually unilateral and located predominantly (86.6%) on the fronto-temporal suture. It may be oval, rounded, spear-like or triangular in shape.[1]

Under histopathological examination, CTA presents a normal number of follicular units, the majority being *vellus*-type hairs.[2]

Received on 03.05.2013.
Approved by the Advisory Board and accepted for publication on 19.06.2013.
* Work performed at the Cório Dermatologia – Goiânia (GO), Brazil.
Conflict of interest: None
Financial funding: None

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The main differential diagnosis is alopecia areata, although other forms of non-scarring alopecia can also be cited, such as trichotillomania, follicular orifice and traction alopecia.[3]

With the advent of the dermoscopy and its expansion to trichology, various studies have shown that, by means of specific dermoscopic features, it is possible to differentiate dermatological conditions that are clinically similar, as shown in chart 1. In dermoscopy, triangular alopecia has a normal follicular orifice with thin *vellus*-type hair follicles, surrounded by normal hair follicle terminals at the periphery; alopecia areata has yellow dots, black dots, exclamation mark hairs, cadaver hairs, dystrophic hairs and thin fleece-like hairs when the disease is in remission; *tinea capitis* has corkscrew and comma hairs; trichotillomania entails diminished capillary density, empty follicular ostia and some yellow dots with and without the presence of black dots on the inside; black dots; fractured hairs at the point of exit, hairs with tips that appear like a "broom" or "brush", and like a "V" or "dancer"; tipped hairs; hairs fractured after their emergence, tightly curled hair, stretched shafts. Occasionally, there may be areas with signs of excoriation and bleeding; and traction alopecia presents with hair casts and cadaverized hairs.[4-8]

Chart 1: Dermoscopic features of CTA and its most relevant differential diagnoses

Dermatological Condition	Dermoscopic Features
Triangular alopecia	Normal follicular orifice with thin vellus-type hair follicles, surrounded by normal hair follicle terminals at the periphery.[5]
Alopecia areata	Yellow dots, black dots, exclamation mark hairs, cadaver hairs, dystrophic hairs and thin fleece-like hairs when the disease is in remission.[5]
Tinea capitis	Corkscrew6 and comma hairs.[7]
Trichotillomania	Diminished capillary density, empty follicular ostia and some yellow dots with and without the presence of black dots on the inside; black dots; fractured hair at the point of exit, hair tips that appear like a "broom" or "brush" and "V" or "dancer"; tipped hairs; fractured hairs after their emergence, tightly curled hair, stretched shafts. Occasionally, there may be areas with signs of excoriation and bleeding.[8]
Traction alopecia	Hair casts and cadaverized hairs.[9]

In 2011, Inui and colleagues proposed a classification for the diagnosis of CTA that suggests four main features: **1.** Triangular or spear-shaped alopecia surrounding the fronto-temporal region of the scalp; **2.** A normal follicle orifice with *vellus*-type hairs surrounded by the terminals (using a dermoscopy); **3.** Absence of fractured or exclamation mark hairs, black or yellow dots and absence of a follicular orifice (using a dermoscopy); and **4.** Lack of hair growth 6 months after the confirmation of the presence of *vellus*-type hairs, both clinically and dermoscopically.[9]

Many authors believe that CTA is not an uncommon disorder but that it is underdiagnosed due to diagnostic confusion with other types of non-scarring alopecia.[3]

However, using clinical parameters and with the advent of well-established dermoscopic criteria, it is possible to distinguish skin diseases that affect the hair and define their diagnoses. Thus, patients can be saved from unnecessary interventions and costs.❑

Abstract: A 6 year-old patient began to experience localized hairloss in the right temporal region three years ago. During the first appointment, diagnoses of alopecia areata and congenital triangular alopecia were made. After one year, there was no change. Upon dermatological examination, non-scarring alopecia was noted in the right temporal region, revealing extremely fine and fair hair follicles. A dermoscopy revealed only thin vellus-type hairs. Congenital triangular alopecia is a condition commonly confused with alopecia areata and is thus underdiagnosed. However, well-established clinical parameters and dermoscopic criteria can be used to distinguish skin diseases that affect hair and define the diagnosis.
Keywords: Alopecia; Clinical diagnosis; Dermoscopy

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How to cite this article: Oliveira LCC, Miranda AR, Pinto AS, Ianhez M. Case for diagnosis. Congenital Triangular Alopecia: clinical and dermoscopic diagnosis. An Bras Dermatol. 2014;89(2):353-5.