# *Pityriasis amiantacea*: clinical-dermatoscopic features and microscopy of hair tufts *

## Pitiríase amiantácea: aspectos clínicos e dermatoscópicos e microscopia dos tufos capilares

Gustavo Costa Verardino[1]
Priscila Marques de Macedo[1]
Luna Azulay-Abulafia[2]
Thiago Jeunon[3]

**Abstract:** *Pityriasis Amiantacea*, also known as pseudotinea amiantacea, is a clinical syndrome which affects the scalp, having a reaction pattern reported to occur in several inflammatory dermatoses. The authors seek to establish the correlation between its clinical, dermoscopic and light microscopy features through the analysis of scale- encrusted hair tufts submitted to histological processing.
Keywords: Dermatitis, seborrheic; Dermoscopy; Pityriasis; Psoriasis; Tinea

**Resumo:** A pitiríase amiantácea, também chamada de pseudotínea amiantácea, é compreendida como uma síndrome clínica que acomete o couro cabeludo. Representa um padrão de reação a diversas dermatoses inflamatórias. Os autores procuram estabelecer a correlação entre características clínicas, dermatoscópicas e de microscopia ótica, através da análise do tufo de cabelos agregados pelas escamocrostas, submetido a processamento histológico.
Palavras-chave: Dermatite seborreica; Dermoscopia; Pitiríase; Psoríase; Tinha

## INTRODUCTION

*Pityriasis Amiantacea* (PA), also called pseudotinea amiantacea, is regarded as a clinical syndrome affecting the scalp. It appears to have a reaction pattern to various inflammatory dermatoses in this particular location. Among the diseases listed as possible causes, seborrheic dermatitis is, according to some authors, the most frequent, followed by psoriasis, superficial pyogenic or fungal infections, lichen planus, lichen simplex chronicus, pityriasis rubra pilaris and atopic dermatitis. The mechanism of formation of the scales characteristic of this syndrome is however still unknown. [1]

PA was described by Alibert in 1832 as "shiny silvery scales, similar to mica (a mineral), which adhere to each other and surrounding hair shafts like the wax around the wick of a candle. They resemble the thin scales surrounding the small feathers of young birds, known to naturalists as 'asbestos' or 'asbestos-like'

Received on 27.12.2010.
Approved by the Advisory Board and accepted for publication on 04.04.11.
* Study conducted at the Pedro Ernesto University Hospital, State University of Rio de Janeiro (HUPE - UERJ), Rio de Janeiro (RJ), Brazil.
Conflict of interest: None / *Conflito de interesse: Nenhum*
Financial funding: None / *Suporte financeiro: Nenhum*

[1] Physician, graduate student in Dermatology at the Pedro Ernesto University Hospital, State University of Rio de Janeiro (HUPE - UERJ), Rio de Janeiro (RJ), Brazil.
[2] Ph.D. in Dermatology awarded by the Federal University of Rio de Janeiro (UFRJ), Assistant Professor of Dermatology, Pedro Ernesto University Hospital, State University of Rio de Janeiro (HUPE-UERJ), the Gama Filho University (UGF) and the post-graduate course at the Prof. Reuben David Azulay Institute of Dermatology, Santa Casa da Misericordia of Rio de Janeiro, Rio de Janeiro (RJ), Brazil.
[3] Preceptor and Head of the Dermatopathology Division of the Dermatology Department, Bonsucesso Federal Hospital (HGB), Rio de Janeiro (RJ), Brazil.

scales." Asbestos (from the Greek ἀ σβεστος, meaning indestructible, immortal, unquenchable), also known as amianth (Greek αμιαντος = pure, free from dirt, unsullied) is a generic name for various fibrous metamorphic minerals found in nature and used in a number of commercial products. The material consists of extremely thin, long bundles of fibers, easily separable from each other with a tendency to produce very small powdery particles (Figure 1). [2, 3, 4]

**Comments**

PA can occur as generalized scaling accompanied by tufts of hair encircled by scale-crustsattached in layers to the hair shaft. (Figure 2). These can be easily separated, leading to areas of non-scarring or cicatricial alopecia (Figures 3 and 4). [2, 5-8]

The hair tufts, stained with hematoxylin-eosin (HE) present scale-crusts binding down tufts of hair. This is the clinical aspect (Figure 5). In our case, PAS staining did not reveal fungal structures, therefore ruling out *tinea capitis*.

Scalp biopsy should be requested in cases of PA whenever doubt exists regarding the diagnosis of the underlying disease, given that microscopic analysis of hair stained with HE has a limited role in the etiologic assessment of the syndrome.

Using polarized light dermoscopy without interface we observed on the scalp of patients with PA the presence of compact material adhering to a tuft of hair, exactly as observed in the clinic, but more precisely defined, as well as intense scaling on the scalp (Figures 6 and 7).

**Figure 2:** Diffuse scaling on scalp, with tufts of hair surrounded by thick scales in a patient diagnosed with seborrheic dermatitis

## DISCUSSION

*Pityriasis Amiantacea* is still a controversial issue from the etiopathogenic standpoint, and doubt still exists regarding the best diagnostic methods and most effective treatments. Studies have shown that the condition appears to represent a particular pattern of response to various inflammatory diseases which affect the scalp such as psoriasis and seborrheic dermatitis, and to infectious diseases such as dermatophytosis. The condition could also arise from factors inherent in the host which have not yet been fully elucidated. [1-3, 5, 6]

The use of the name *Pityriasis Amiantacea* (PA) as a synonym for *pseudotinea amiantacea* has aroused much discussion, since fungal infections are among the causes of the latter syndrome. The term *pseudotinea* is not appropriate in this context and

**Figure 1:** Asbestos fibers as found in nature
*Courtesy of prof. Hermano Albuquerque de Castro - FIOCRUZ (RJ)*

**Figure 3:** Thick crusts adhering to tufts of hair, easily detachable from the scalp

**Figure 4:** Non-scarring alopecia evolving from *Pityriasis Amiantacea*

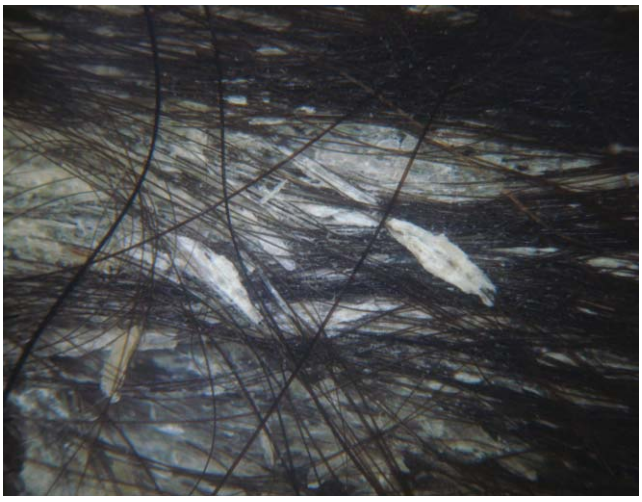

**Figure 6:** In the dermoscopy without interface, asbestos-like scale crusts can be observed adhering to the tufts of hair. (Dermoscopic photo taken with a Sony Cybershot ® W55 digital camera attached to the manual dermatoscope DermLite ® Hybrid II m, 3Gen, LLC, San Juan Capistrano, CA, USA, magnified x 10)

should be replaced by *pityriasis* (scaling). The similarity of crust adhesion to hair shafts with asbestos fibers justifies the use of the term *amiantacea* to describe the dermatosis.

With respect to diagnostic methods, an anatopathological examination, mycological examination and cultures are essential for diagnosing the underlying disease.

We found no previous mention in the literature of the microscopic analysis of hair tufts, submitted to routine histological processing and stained with hematoxylin and eosin. The above is the first time this has been reported.

Dermoscopy is an increasingly important resource. Previously employed only for pigmented lesions, dermoscopy is becoming a tool for examining the nail apparatus and scalp. In the case of PA, dermoscopy is not meant to replace the above-mentioned tests because it does not aid in diagnosing underlying disease. In the case reported it served to magnify the clinical features, allowing us to observe that the symptoms closely resembled asbestos. Note that the syndromic diagnosis is essentially clinical, while complementary tests serve as an additional aid to the diagnosis of underlying disease.

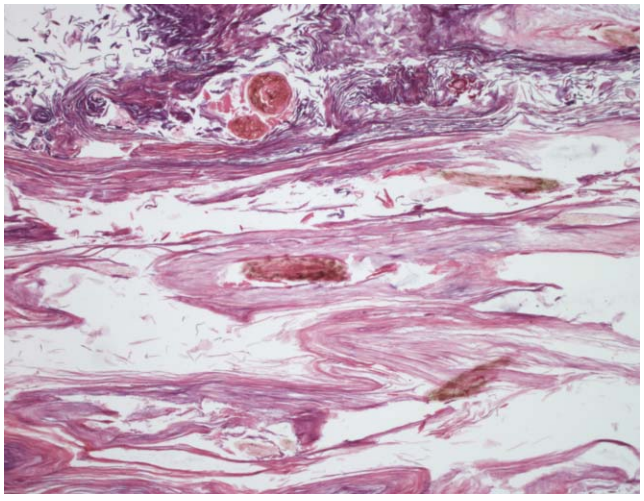

**Figure 5:** Hematoxylin and eosin staining (40x): hyperkeratosis of the stratum corneum, either in mesh form or compressed, permeated by small blood plasma globules and associated with numerous bound-down hair shafts resembling asbestos

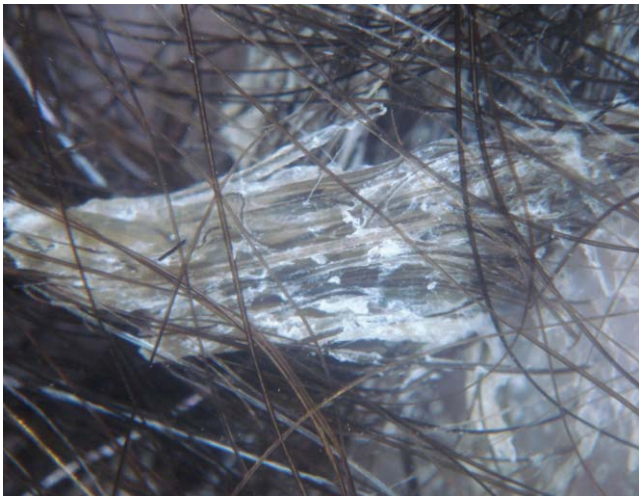

**Figure 7:** In dermoscopy (magnified x 20), scale crusts attached to multiple hair shafts can be seen, resembling amianth or asbestos

## CONCLUSION

This article refers to a number of diagnostic approaches to *Pityriasis Amiantacea*, highlighting dermoscopy as a useful resource for observing details often overlooked by the human eye. When magnified they have a certain beauty. Together with the histological techniques used for microscopic analysis of the tufts and scales, dermascopy certainly confirms the similarity with amianth or asbestos. ❑

## REFERENCES

1. Abdel-Hamid IA, Agha AS, Moustafa YM, El-Labban AM. *Pityriasis amiantacea*: a clinical etiopathologic study of 85 patients. Int J Dermatol. 2003;42:260-4.
2. Moon CH, Schissel DJ. Pityriasis aminatacea. Cutis. 1999;63:169-70.
3. Alibert JL. La porrigine amiantacée. Monogr Derm. 1832:293-5.
4. Houaiss A. Dicionário Houaiss da Língua Portuguesa. Lisboa: Circulo dos Leitores; 2002.
5. Knight AG. *Pityriasis amiantacea*: a clinical and histopathological investigation. Clin Exp Dermatol. 1977;2:137-43.
6. Ring DL, Kaplan DS. Pitiryasis amiantacea: a report of three cases. Arch Dermatol. 1993;129:913-4.
7. Langtry JAA, Ive IA. *Pityriasis amiantacea*, na unrecognized cause of scarring alopecia, described in four patients. Acta Derm Venereol. 1991;71:352-3.
8. Pham RK, Chan CS, Hsu S. Treatment of *pityriasis amiantacea* with infliximab. Dermatol Online J. 2009;15:13.

*MAILING ADDRESS / ENDEREÇO PARA CORRESPONDÊNCIA :*
*Gustavo Costa Verardino*
*Av. 28 de setembro, 87 - Vila Isabel*
*Rio de Janeiro – RJ*
*20551-030 Brazil*
*Email: gustavo_verardino@hotmail.com*

How to cite this article/*Como citar este artigo*: Verardino GC, Azulay-Abulafia L, Macedo PM, Jeunon T. *Pityriasis Amiantacea*: clinical-dermatoscopic features and microscopy of hair tufts. An Bras Dermatol. 2012;87(1):142-5.