Casts: three cases report and literature review*

*Cilindros capilares: relato de três casos e revisão da literatura**

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Abstract: Hair casts are small white yellowish keratinous structures that totally wrap the hair shaft. They are characterized by asymptomatic, semifirm, tannish, freely movable, cylindrical masses, distributed along the scalp hair. This condition has been found in three women, whose case histories are described.
Keywords: Hair; Hair diseases; Scalp dermatoses

***Resumo**: Os cilindros capilares são pequenas formações tubulares branco-amareladas que envolvem completamente os fios de cabelos sem a eles aderir, de forma que são móveis ao longos dos cabelos afetados, sem provocar sintomas. Os autores apresentam três pacientes do sexo feminino acometidas dessa doença.*
Palavras-chave: Cabelo; Dermatoses do couro cabeludo; Doenças do cabelo

INTRODUCTION

Hair casts (HC) are characterized by white yellowish cilindrical concretions that involve hair shaft, but do not adhere to it. On the contrary, they slide through hairs when tractioned.[1-3] They were first described in 1957 by Kligman[3] and, even though they are not unusual, there is scarce literature on it. These structures measure from three to 7mm in length, and they have variable location throughout scalp. They may occur in small or large numbers, and their importance lies in the fact that they are frequently confounded with othere common diaseases of the scalp, such as pediculosis, white piedra and seborrheic dermatitis, for instace. According to the literature and the author's experience, false diagnoses are common, which implies inadequate treatment and becomes a reason for both patient and physician anxiety.

Below, three cases are reported on women affecetd by this condition, the initial diagnosis of which involved other diseases; besides, a brief literature review is presented.

CASE REPORTS

Case 1

White single 20-year-old female patient, born at and coming from Cambé, PR, who sought assistance claiming to have noticed the presence of many louse eggs two weeks before, with no pruritus. She then requested her sister to verify the region and, as she expected, no louse was found. On examination, she presented a great amount of white spots sorrounding hairs in all their extension (Figure 1). The scalp had normal aspect, and no parasites were detected. With a diagnostic hypothesis of white piedra, a mycological test was requested, with negative result. On reevaluation, the patient herself called attention to the fact that lesions were withdrawable by simple sliding through the hair shaft, as if removing beads from a necklace. She added that although she had aquired this habit, new lesions kept being formed. Based on these facts and on microscopic examination of hairs (Figures 2 and 3), and with the aid of literature, we confirmed the clinical diagnosis of hair casts. Because the patient was pregnant, an expecting approach was employed, with spontaneous resolution after delivery.

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Figure 1: Clinical aspect of hair casts (Patient 1)

Case 2

White 48-year-old retired widowed female coming from Londrina, PR, bearing psoriasis for years, reported the appearance of whitish concretions (Figure 4) disposed along hairs, as well as psoriatic desquamation on scalp. Such formations also slided as far as the distal hair extremity when tractioned. After receiving the clinical diagnosis of hair casts associated to psoriasis, she was treated with tar shampoo and capillary betametasone, with improvement of the condition.

Case 3

White 13-year-old female student coming from Londrina, PR, reported hair lesions with no pruritus for weeks. On examination, small whitish concretions were observed along hairs (Figure 5), besides absence of symptoms and local louse eggs. Initial diagnosis was of white piedra; however, fungus assessment was negative and there was no initial response to myconazol lotion at 2%. When reevaluated, sliding withdrawal maneuver was positive, confirming the diagnosis of hair casts. Patient was submitted to treatment with a retnoic acid solution at 0.025%, with complete regression of the lesions.

DISCUSSION

After the initial description by Kligman,[3] few studies have approached the issue of HC. Seemingly, they are more common among females, particularly in those patients who keep their hairs with excessive traction for long periods of time.[4] Hair casts seem to be more common among young adults. An investigation on the incidence of HC was carried out in a district in China. Of the 3,548 studied individuals, 30.24% presented the condition. Among women, incidence was 61.6%.[4]

Its etiology is unknown; however, Dawber[1] reports its presence associated to head pityriasis, scalp pityriasis and pityriasis amiantacea, as well as with hairdos with a lot of traction and the use of hair sprays. Nevertheless, they may occur with no other abnormalities of the scalp, simulating pediculosis, being for this called pseudo louse eggs.[1] In patients with parakeratotic scalp disease resistent to appearently proper treatment, the hypothesis of HC should be considered.[1] Zhu et al.,[5] 5 through an electron microscopy study, suggest that the use of hairdos with traction, such as braids or ponytails, by causing local circulatory disturbances and scalp inflammation, could be one of the etiologic factors involved in the formation of hair casts, particularly in girls.

Electron microscopy studies have shown that true peripillous HC are usually composed by an external radicular sheath, rarely composed of an internal radicular sheath, and sometimes made up of both

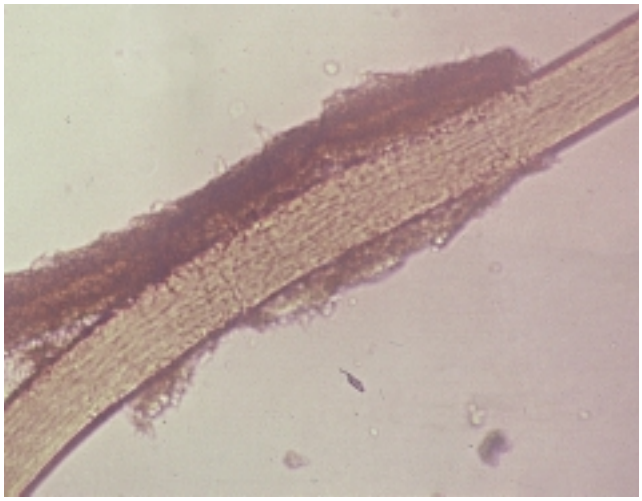

Figure 2: Cast seen under optical microscopy (100x)

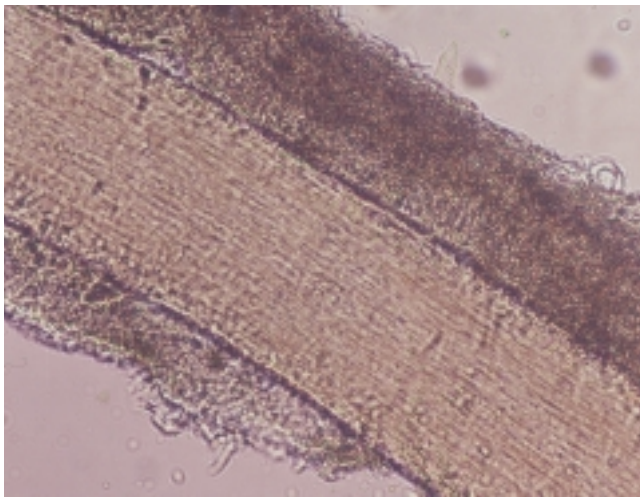

Figure 3: Hair cast seen under optical microscopy (100x)

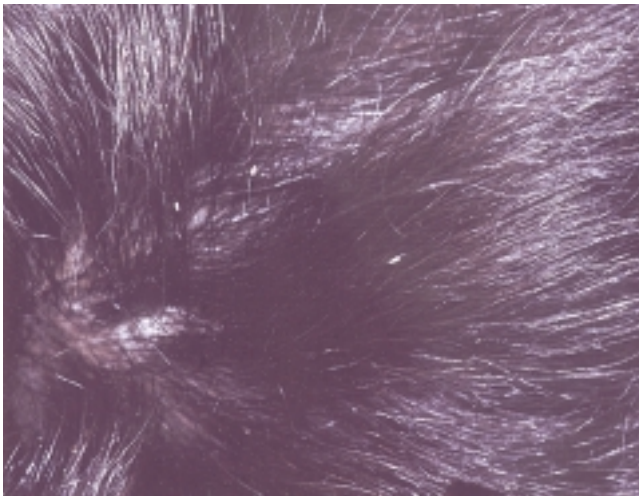

Figure 4: Clinical aspect of hair casts (Patient 2)

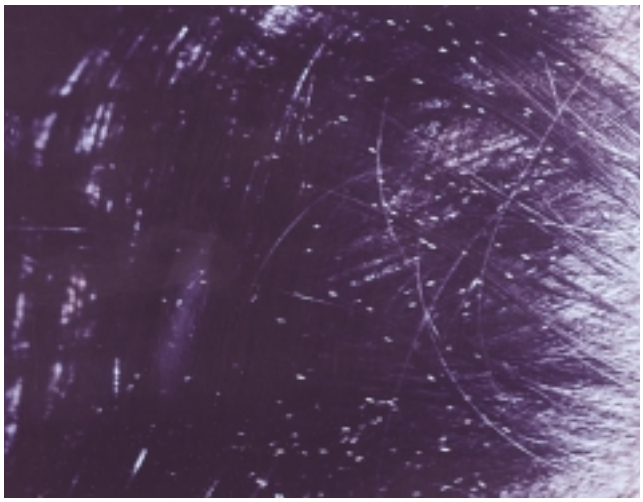

Figure 5: Clinical aspect of hair casts (Patient 3)

internal and external sheaths.[6] Bayerl et al.[7] described the case of a male patient who presented an association of lichen ruber follicularis and Brocq's pseupelade. HCs have also been associated to an important psychological trauma by Held et al.[8] seems that the first description in Brazil was made by Hirata et al.,[2] who described a case of yellow-skined twins from Ibiúna, SP, presenting HC as confirmed by both optic and electronic microscopy, after negative mycological exams. Before the visit, they had been mistakenly treated with topic medications for seborrheic dermatitis and scalp pediculosis. The fact that it was found in brothers and, moreover, twins, may suggest familial predisposition.[2]

Scott[9] observed the disease – clinically similar to white piedra – in three caucasian sisters and believed that the phenomenon could be due to external use of some chemical in the hair or scalp of susceptible individuals. Keipert[10] reports the disease in nine young female patients, reviews literature and makes some considerations about it. Brunner[11] describes three patients who had been treated as bearing pediculosis, but who in fact had HC, and makes several considerations on the disease and points out as possible differential diagnoses triconodosis, tricorrexis nodosa, pediculosis and othert manifestations. Daly[12] presents the case of a white seven-year-old boy who had been diagnosed as having white piedra. Because of the rarirty of such case at the place, the child was hospitalized for investigation. Tests for mycoses, louse eggs, tricorrexis nodosa etc. were all normal, with the establishment of a final diagnosis of HC. In another study, Keipert[13] considered the existence of two types of HC. The first, associated with parakeratotic disorders of the scalp, occuring commonly in children and adults of both genders, which he denominated parakeratotic hair casts. The second type is not associated to the latter disorders and occurs in women, for this type, he suggested the name of keratinous hair casts.

also veryfied the problem in five girls aged from two to eight years. In one of them, there was an association with psoriasis and the others were considered to have possible external factors involved, such as traction, shampoos etc, in predisposed patients. Once again, Keipert[15] presented three more cases in boys and, when reviewing literature, mentioned that almost all cases until then had been described in girls. Taïeb et al.[6] described the disease in two girls, one five and other seven years old, reporting that the use of a 0.025% tretnoin lotion had been effective in treating the condition.

Even though HC are benign and low-morbidity conditions, the fact that they are little known leads to frequent diagnostic confusion, which may generate unnecessary costs and anxiety for both patients and physicians. ❑

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