CASE REPORT

A Case of Peripilar Hair Casts

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Abstract

Hair casts also called as peripilar keratin casts or psuedonits are thin, firm, yellowish white tubular accretions that ensheathe the hair shaft and can be moved up and down along the hair shaft. False diagnoses like nits are common. In addition to physical removal, keratolytic shampoos and retinoic acid are used for treatment. We report a 17 years old girl with pseudonits. Thus presenting a relatively rare condition of scalp where underdiagnosis is common.

Keywords: *Hair casts, Hair diseases, Pseudonits*

Introduction

Hair casts or pseudonits or peripilar keratin casts are 2-7 mm long, discrete, firm, shiny, white, freely movable tubular accretions that encircle the hair shafts of the scalp [1]. This entity was first described as "parakeratotic comedones of the scalp by Kligman in 1957 [2]. Hair casts are called as "pseudonits" as they have been misdiagnosed as pediculosis capitis in school-going children. Unlike nits that are adherent firmly to the hair shaft, hair casts can be moved up and down the shaft and are asymptomatic. False diagnoses are common, which implies inadequate treatment and becomes a reason for both patient and physician anxiety [3]. Thus presenting a relatively rare case in which underdiagnosis is common.

Case Report

A 17-year-old female presented to dermatology outpatient department with asymptomatic small whitish lesions attached to the hair shaft since 2 years. Thinking of it as nits, her mother removed the lesion but did not find any. There was no history of similar complaints in the family members or friends. The dermatological examination showed white cylinders, easily moved over the hair shaft, located on proximal hair of the frontotemporal, occipital and parietal regions, bilaterally (Figure 1).

There was no hair loss and scalp was normal. On trichoscopy, whitish colored elongated tubular structures were seen encircling the hair shafts (Figure 2).

Figure- 1: Hair casts ensheating the hair shaft

Figure- 2: Trichoscopic appearance of hair casts
Whitish colored elongated tubular structure encircling the hair shaft

A 10% potassium hydroxide preparation of the hair showed an irregular amorphous concretion around a normal hair shaft without any hyphae (Figure3) & the accretions dissolved with passage of time. Fungal culture of hair casts was performed & was negative. So a final diagnosis of hair casts was made based on the above finding and the patient was prescribed a salicylic acid shampoo with partial improvement.

Figure- 3: 10% KOH preparation (Hair Casts)

Discussion

Despite the small number of cases reported in literature, hair casts do not seem to be uncommon. Girls and young women are most commonly affected. The exact etiology is unknown [3]. It is hypothesized to be due to extension of the root sheath covering beyond the limits of the hair follicle [4]. It also occurred in those who subject their hair to continuous traction forces like tying of hairs in tight pony-tails. One more proposed pathogenesis of hair casts is colonization of Propionibacterium acnes of terminal hair follicle [5]. Pseudo nits consist of keratinized cells from both the internal and the external epithelial sheaths of the hair root [6]. Keipert thought about the existence of two types of hair casts. The first, associated with parakeratotic disorders of the scalp, occurring commonly in children and adults of both genders, called as parakeratotic hair casts. The second type is not associated with the later disorders and occurs in women, gave the name of keratinous hair casts [7]. Differences between peripilar keratin casts and parakeratotic hair cast is given in table- 1 [8].

The differential diagnoses of hair casts include pediculosis capitis, piedra, trichomycosis, trichonodosis and trichorrhexis nodosa. The hair casts can be diagnosed based on history of easily sliding of lesions over the hair shaft, trichoscopic finding of tubular accretion and dissolution of casts in 10% KOH preparation.

Treatment with keratolytic shampoos is not very effective. Apart from manual removal and combing, 0.025% retinoic acid works best for this condition but it can recur following stoppage of treatment [9].

Conclusion

Hair casts are rarely reported entities, and the literature available in most dermatological textbooks is scarce. Hair casts being a relatively rare disease & underdiagnosis and misdiagnosis are common, thus presenting this case.

Table- 1: Differences between PKC and PAHC

	Peripilar keratin casts (PKC)	Parakeratotic hair casts(PAHC)
Appearance	Similar in size, shape and color	Irregular size, shape and color
Frequency	Rare	Common
Age	Young girls	Adults
Associated dermatoses	Nil	Parakeratotic dermatoses
Scanning electron micrograph	Smooth surface, enclosing one hair	Irregular surface, enclosing more than one hair
Transmission electron micrograph		
* Inner layer	1-2 cell thick layer keratinized flattened cells	2-3 cell thick layer keratinized flattened cells
* Middle layer	1-2 cell thick layer keratinized cuboidal cells	4-5 cell thick layer parakeratotic cells
* Outer layer	Homogenized keratinized layer with undefined cell margin	More than 10 cell thick layer keratinized elongated cell

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