

Nits and Pseudonits in Indian Children: A Dermoscopic Perspective

Abstract

Background: Hair casts or pseudonits are tubular accretions that are movable encircling the hair shafts of the scalp. It is commonly confused as head lice or pediculosis capitis, which is a common concern in pediatric age group. Hair casts are common in psoriasis, seborrheic dermatitis, and pityriasis amiantacea. This misdiagnosis is a reason of patient and physician anxiety. We attempted to evaluate significance of trichoscopy in differentiating nits and pseudonits and therefore a better treatment plan. **Aims and Objective:** To evaluate trichoscopic patterns in nits and pseudonits. **Methodology:** The study was conducted in a tertiary hospital. Ethical clearance and consent from patients were obtained. DermLite 3 with $\times 10$ magnification was employed for trichoscopy. Tiny concretions on the hair shafts were examined with trichoscopy. Patterns were analyzed. **Results:** Totally, 25 patients were included in the study with 7 boys and 18 girls. The mean age was 9 years. Trichoscopy demonstrated cylindrical white sheaths (2–7 mm) encircling the hair shafts in 15 patients (60%). Forty percent of the patients showed pyriform-shaped translucent and yellowish structures (0.8 mm) attached to hair shafts. Based on the trichoscopy patterns, diagnosis of pseudonits and nits was made in former and latter groups, respectively. **Conclusion:** Trichoscopy plays an important role in differentiation of nits and pseudonits. Since nits are contagious, correct diagnosis is of utmost importance for better management. Thus, trichoscopy is a reliable diagnostic procedure in daily practice of dermatologists.

Keywords: Dermoscopy, nits, pediatric dermatology, pediculosis capitis, pseudonits

Introduction

Head lice or pediculosis capitis is a common concern in the pediatric age group, causing an itchy scalp. It is due to infestation of head *Pediculus humanus var. capitis*. In rural areas, the prevalence rate ranges from 13.3% to 49% in age group of 3–13 years.^[1–3] It is commonly seen in girls due to their hair length. Although head lice is not a major health problem, it can be cause of isolation, social embarrassment, peer-criticism, anxiety, absenteeism from academics, and difficult issue for school authorities to handle.^[4]

Hair casts or pseudonits are 2–7 mm long, discrete, firm, shiny, white, freely movable tubular accretions that encircle the hair shafts of the scalp.^[5] Hair casts can be found in psoriasis, tinea capitis, and seborrheic dermatitis.^[6]

Many times, hair casts can be confused with pediculosis capitis and false diagnosis is a reason for patient and physician anxiety.^[7]

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Trichoscopy, dermoscopy of hair, is a novel, noninvasive procedure which helps to make a correct diagnosis and therefore a better treatment plan as it can easily differentiate between nits, empty cases, and hair casts.

The objective of this study is to present differences in nits and pseudonits on trichoscopy so as to prevent false diagnosis and alleviate patient morbidity.

Methodology

The present study was conducted in a tertiary hospital in South India. Ethical clearance was obtained from the institute committee. A total of 25 patients with a history of itchy scalp were randomly selected for the study. The consent from patients was obtained. A total of 25 patients were included in the study out of which seven were boys and 18 were girls [Figure 1]. The age group ranged from 6 to 14 years (mean – 9 years) [Figure 2]. DermLite 3 with $\times 10$ magnification was employed for trichoscopy. Tiny concretions on the hair shafts were examined with trichoscope. Patterns were analyzed.

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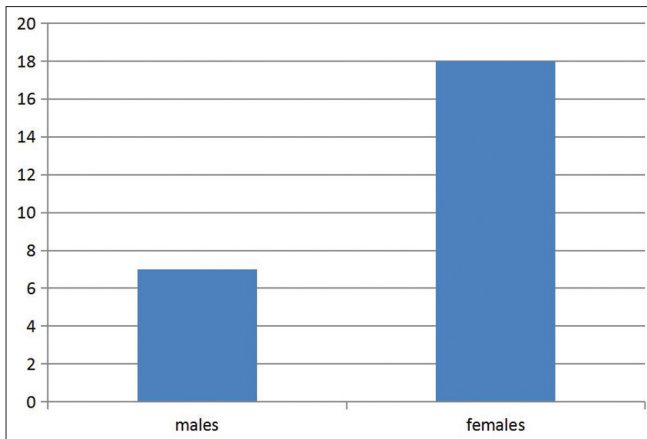


Figure 1: Sex distribution of participants

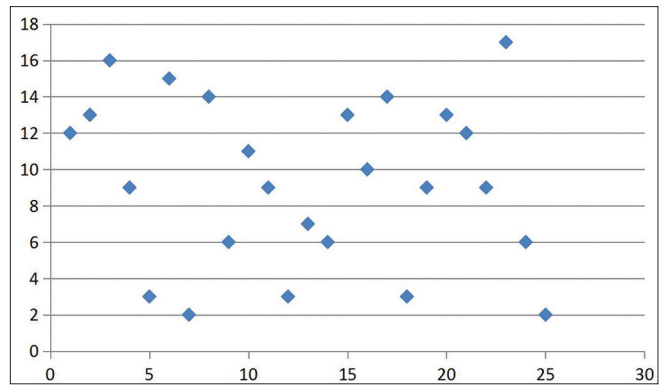


Figure 2: Age distribution of participants



Figure 3: Plano-convex accretions over the hair shaft demonstrating empty nits



Figure 4: Biconvex accretions of the hair shaft showing viable nits of pediculosis capitis



Figure 5: Tubular accretions (5–8 mm) covering the hair shaft (pseudonits)

Results

Trichoscopy revealed pyriform-shaped translucent and yellowish structures of size 0.8 mm attached to the shaft in 10 patients (40%). Out of them, 3 (12%) showed translucent structures with planar ends attached to the hair shaft. A diagnosis of nits was made in this group [Figures 3 and 4].

Trichoscopy demonstrated cylindrical white thin elongated sheaths of 2–7 mm encircling the hair shaft in 15 patients (60%). Based on trichoscopic pattern, diagnosis of pseudonits was made in this group [Figure 5].

Discussion

Casts seem to be most common among young adults and are seen mostly on the parietal and occipital areas. The pathogenesis is often not clear, but their presence can be

associated with seborrheic dermatitis, hair nodes, scalp psoriasis, hairstyles with much traction, and also the use of hair sprays. All these conditions lead to formation of more consistent root sheaths, which do not disintegrate during the hair growth. Sometimes, they may occur without any previous abnormality. They can be easily slid along the hair shaft.

Electron microscopy studies showed that the true peripillous hair casts are usually compounds of the outer root sheath and are rarely composed of the internal root sheath and often some are made up of both the sheaths, internal and external.^[8]

The vital nit is usually translucent to light brownish ovoid structure with a convex end filled with an embryo. During organogenesis, it appears as a brown, ovoid structure with a convex end. In case of advanced organogenesis, the limb and eye macule can be seen. Empty, hatched nit was translucent with a planar end.

In the nit, one can find a roundish bottom or the bottom pole which is oriented toward skin, a larger central body, and a free distal pore oriented toward outside (distal pore). Nits are oriented at acute angles from the hair shafts. Proximal pole and central body are firmly attached to

hair, whereas distal pole is free and separated from shaft by fractions of millimeters. Nits are usually found near to scalp due to breeding habits of the lice.

Conclusion

We aimed to have briefly presented our experience in the daily clinical practice using a DermLite 3 manual device with $\times 10$ magnification in the study of hair infestations.

Dermoscopy allows the immediate and reliable diagnosis of head lice eggs and their differentiation from hair casts. Furthermore, dermoscopy helps in the differentiating between the vital nits of an active infestation and empty eggs, which helps to monitor treatment success or failure.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patients' parents have given their consent for their images and other clinical information to be reported in the journal. The patients' parents understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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