

# Chapter 7

## A 32-Year-Old Woman with an Intense Pruritus of the Scalp



Sylwia Chrostowska, Joanna Golińska, and Aleksandra Wielgoś

A 32-year-old woman presented with a few-week history of intense pruritus of the scalp. The patient was a kindergarten teacher for the year. No personal history of dermatological and non-dermatological conditions was reported. The patient's sister suffered from seborrheic dermatitis.

A physical examination revealed excoriations, erythema and mild scaling on the scalp and posterior neck. Moreover, nits and lice were observed. On trichoscopy, lice, brown and translucent ovoid eggs attached to the hair shaft were detected (Figs. 7.1 and 7.2).

Based on the case description and the photographs, what is your diagnosis?

### Differential Diagnoses

1. Pediculosis capitis (head lice).
2. Tinea capitis.
3. Psoriasis.
4. Seborrheic dermatitis.

### Diagnosis

Pediculosis capitis (head lice).

### Discussion

Head lice are obligate ectoparasites that infect the scalp area. Pediculosis capitis is found worldwide with no limitations based upon age, sex, race, or socioeconomic class. The main route of transmission is direct head-to-head contact. Head lice are

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S. Chrostowska (✉) · J. Golińska · A. Wielgoś  
Department of Dermatology, Medical University of Warsaw, Warsaw, Poland  
e-mail: [sylwia.chrostowska@wum.edu.pl](mailto:sylwia.chrostowska@wum.edu.pl); [joanna.golinska@wum.edu.pl](mailto:joanna.golinska@wum.edu.pl)

**Fig. 7.1** Trichoscopy with brown and translucent ovoid eggs attached to the hair shaft ( $\times 10$ )



**Fig. 7.2** Trichoscopy shows a louse ( $\times 10$ )



approximately 2–3 mm long parasites that feed on the human blood approximately every four to six hour. The female louse lives for 30 days, during which time she lays between five and ten eggs a day on hair shafts. Pediculosis capitis most commonly affects children between three and 11 years of age. It is characterized by the presence of excoriations, erythema and scaling on the scalp and posterior neck. Itching and burning sensation are reported. In case of secondary bacterial infection, a low-grade fever and local lymphadenopathy may occur. Diagnosis is made by the identification of nits and/or lice on the scalp hair. Viable eggs are usually tan to brown in color, while hatched eggs are clear to white. Dermoscopy may help to

better visualize nits and lice. In treatment of pediculosis capitis, pyrethrins synergized with piperonyl butoxide or permethrin cream/lotion are commonly used. Benzyl alcohol lotion, dimethicone, spinosad cream rinse and ivermectin solution are also recommended. Another therapeutic option for head lice is oral ivermectin [1].

In the presented patient, tinea capitis, psoriasis and seborrheic dermatosis were included in the differential diagnosis.

Tinea capitis is a fungal infection of the scalp that affects mainly children. The disease is characterized by the presence of hair loss areas with coexisted scaling, inflammation or pustules. Itch is usually reported [2].

Scalp psoriasis is characterized by the presence of red, thickened plaques with a silver-white scale, either contained within the hairline, or extending onto the forehead, ears, and posterior neck. The frontal and occipital areas are most commonly affected. Itch may be reported [3].

Seborrheic dermatitis presents as well-delimited erythematous plaques with greasy-looking, yellowish scales [4]. Itching sensation is usually presented [5]. Seborrheic dermatitis is characterized by a seasonal pattern, presenting more frequently during winter, and improving usually during summer [5].

In the presented patient, based on clinical presentation and the presence of nits on hair shafts, the diagnosis of pediculosis capitis was established. The patient was successfully treated with permethrin lotion.

### Key Points

- Pediculosis capitis is a common parasite infection of the scalp.
- It is characterized by the presence of excoriations, erythema and scaling on the scalp and posterior neck with coexisted pruritus.

### References

1. Bologna JL, et al. *Dermatology*. 4th ed. Elsevier, Section 12, Chapter 84 Infection, Infestations and Bites; 2018. p. 1507–9.
2. Adesiji YO, Omolade FB, Aderibigbe IA, Ogungbe O, Adefioye OA, Adedokun SA, et al. Prevalence of tinea capitis among children in Osogbo, Nigeria, and the associated risk factors. *Diseases*. 2019;7(1):13.
3. Blakely K, Gooderham M. Management of scalp psoriasis: current perspectives. *Psoriasis (Auckl)*. 2016;6:33–40.
4. Clark GW, Pope SM, Jaboori KA. Diagnosis and treatment of seborrheic dermatitis. *Am Fam Physician*. 2015;91(3):185–90.
5. Borda LJ, Wikramanayake TC. Seborrheic dermatitis and dandruff: a comprehensive review. *J Clin Investig Dermatol*. 2015;3(2).