

“Eczema” of the nape: A marker of pthiriasis capitis

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ABSTRACT

Pthirus pubis usually infests the pubis, inguinal folds, buttocks and perianal region. In hairy males or when the infestation is longstanding, this louse can also occur on the thighs, abdomen, chest, axillae and beard. Eyelashes may be involved in children. The involvement of the scalp is very rare. We describe four girls with *P. pubis* infestation located exclusively on the scalp which was characterized by a rash on the nape that can suggest a head and neck form of atopic dermatitis.

1. Introduction

Pthirus pubis Linnaeus, 1758 (Diptera: Anoplura) (*Phthirus pubis*, crab louse) usually infests adults on the pubis, inguinal folds, buttocks and perianal region. In hairy males or when the infestation is longstanding, this louse can also occur on the thighs, abdomen, chest, axillae and beard. Eyelashes may be involved in children. The involvement of the scalp is very rare. We describe four girls with *P. pubis* infestation located exclusively on the scalp which was characterized by a rash on the nape that can suggest a head and neck form of atopic dermatitis.

2. Case reports

The case list is made up of four girls, aged 6, 8, 9 and 11 years, who were admitted to our Dermatology Unit because of a dermatitis located on the nape that appeared two months earlier. In all patients, a diagnosis of atopic dermatitis was previously made elsewhere, even though the typical areas for this disease were not involved. The patients had no relationship between them (family, school, friendship). All patients had been treated, although unsuccessfully, with topical corticosteroids and oral anti-histamines. All patients complained of more or less severe itching on the scalp, neck and nape.

Dermatological examination revealed erythematous-squamous lesions on the nape, shoulders and upper portion of the back (Fig. 1). Furthermore, some lice and nits were observed on the scalp (Fig. 2). In one patient, two nits were visible in some hairs. Dermoscopy and microscopic examinations showed *P. pubis* (Fig. 3). Neither lice/nits nor

skin lesions were observed elsewhere; in particular, eyelashes were not involved. Patients' parents denied previous or current infestations by *P. pubis*. Dermatological examinations of 6 out of 7 parents (one girl was fatherless) were negative for lice infestation. The father of a patient refused the dermatological examination. It is very likely that these patients acquired the infestation at their school; it was possible to exclude a sexual transmission.

All four patients were successfully treated with a foam containing 0.165% pyrethrins and 1.65% piperonylbutoxide (1 application/day for 30 min, on the scalp and nape, for two days; the treatment was repeated ten days later). One patient complained of mild burning sensation. The neck, shoulders and upper portion of the back were treated with methylprednisolone aceponate cream (1 application/day for one week). Follow up (six months) was negative in all four patients.

3. Discussion

Less than 30 cases of pthiriasis capitis have been published [1–21]. We decided to use the term of “pthiriasis capitis” because the correct name of this louse is *Pthirus pubis* and not *Phthirus pubis*. The involvement of the scalp by *P. pubis* is therefore considered as very rare, although it is likely underestimated. However, in the last 35 years, at the Dermatology Unit of the University of Milan, we observed the first case of scalp involvement by *P. pubis* at the beginning of 2018, in a 37-year-old woman who likely acquired the infestation during a trip to Far East [21]. It is also possible that pthiriasis capitis is misdiagnosed as pediculosis caused by *P. humanus capitis* De Geer, 1767. The reason of the rarity of *P. pubis* infestation of the scalp is not clear. The hypothesis

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Fig. 1. Patient 2. Erythematous-squamous lesions located on the nape, shoulders and upper portion of the back.

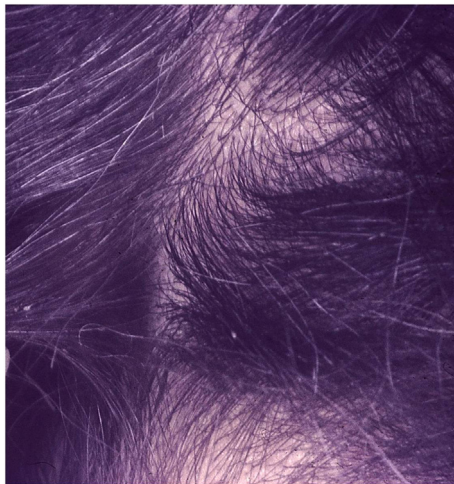


Fig. 2. Patient 4. Two nits on the scalp.

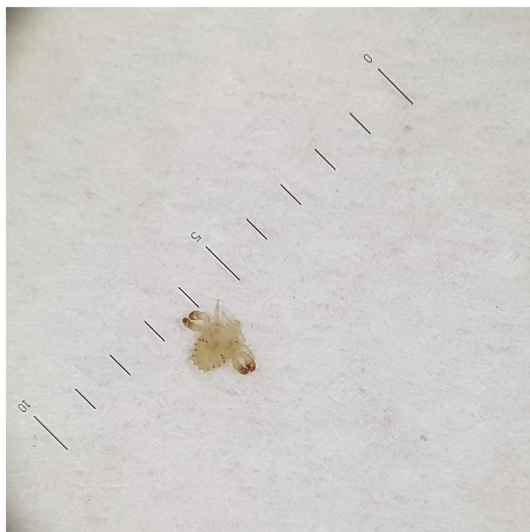


Fig. 3. *Pthirus pubis* observed by dermoscopy.

according to which this louse grows only in areas rich in apocrine glands is not convincing, because these glands are very rare on the scalp [8]. According to some authors, the distribution of *P. pubis* on the skin surface would be related to hair density. Pubic hairs are more widely spaced than hairs in other areas: their 2 mm spacing matches the two

opened side legs span of the louse, which moves clinging closer hairs by means of the hooks of the second and third pair of legs [22].

All cases of pthiriasis capitis reported so far have been Caucasians or Asians. The infestation was observed in children [2,6,8,9,11–13,15,16,20] as well as in adults [1–4,7,10,14,15,17,19,21]. According to the photographs reported in the articles, all patients had straight hair [1,3,14,17,19]. Several authors observed on the scalp, in addition to nits, more or less numerous adults of *P. pubis* [1–3,7,16,21]: in infestation caused by *P. humanus capitis*, the adults are rather rare [1]. A co-infestation on the scalp by both *P. humanus capitis* and *P. pubis* was observed in two siblings [8]. An additional important difference between the two infestations is itching: the latter is very common and often severe in pthiriasis capitis [1,3,4,6,7,12,14,16,21]. This explains the frequent observation of abrasions due to scratching [1,7]. In one girl, pthiriasis capitis was accompanied by fever [12]. The occipital region, nape and upper portion of the back, as in our patients, are usually involved [1–3,7,8,21]. In some patients the infestation occurred only on the scalp: no involvement of other skin areas, such as the pubis, were observed [3,7,8,21]. Also in our patients the infestation involved only the scalp.

As previously mentioned, it is possible that pthiriasis capitis is misdiagnosed as pediculosis caused by *P. humanus capitis*. As suggested by some authors [7], microscopical examination of the lice collected from the scalp is very important for a correct etiological diagnosis.

In conclusion, we have described four cases of pthiriasis capitis which presented with eczematous, pruritic lesions on the neck, nape, shoulders and upper portion of the back: these lesions have been certainly caused by chronic scratching due to itching.

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Declaration of Competing Interest

None.

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