Pediculosis Pubis and Dermoscopy

Pediculosis pubis (PP) is infestation with pubic lice of the species *Phthirus pubis*. There are no ratial differences in its incidence and the infestation is generally common (1). Direct contact is the primary source of transmission. In adults, PP most frequently occurs as a sexually transmitted disease (STD), commonly associated with other STDs (1). However, transmission may occur from sheets and clothing.

Phthirus pubis habituates regions that are rich in apocrine glands, so predilection sites are pubic area, axillae and eyelashes. Scalp hair, beard, moustache, and in hirsute individuals short hairs of the thighs, trunk and perianal area may be involved (1). *Phthirus pubis* in eyelashes and periphery of the scalp is mainly found in children, probably as the result of contact with an infected parent (1).

Pubic lice feed and reproduce on the human host cementing their nits to the hair shaft 1 cm from the skin surface and nits hatch in 8 to 10 days (1). The majority of patients complain of pruritus. Pruritus is moderate. Typical clinical findings are blue to grey macules (sky-blue spots), *maculae ceruleae*, sized from several millimeters to several centimeters (1). Excoriations are not commonly found. Secondary infection due to excoriations can lead to local lymphadenitis and fever.

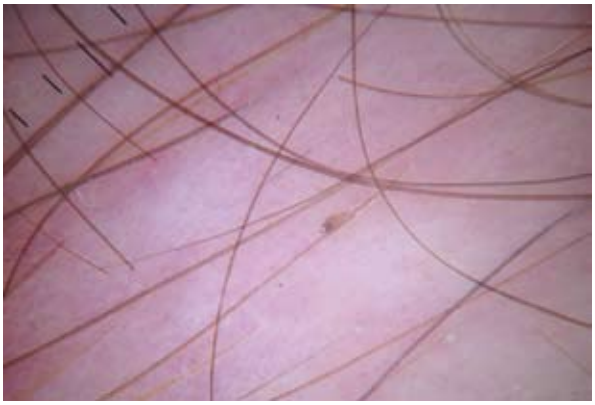

Figure 1. A lice egg with nymphs attached to the pubic hair shaft (DermLite II PRO-HR, 3Gen, LLC; Sony DSC-P200. (original magnification X10)

Pubic lice can sometimes be macroscopically identified with the naked eye and with a magnifying lens (1). The diagnosis is confirmed by microscopic examination of the plucked hair to identify the nits with vital nymphs and hatched empty cases (1). Lice are difficult but possible to see with close inspection or magnification. Additionally, dermoscopy allows to differentiate nits with vital nymphs from empty cases and to identify pubic lice (2).

We present a 33-year-old male patient with symptoms of moderate pubic itch lasting for two weeks. Clinically, whitish to brownish nits fixed to the hair and few alive and moving lice in the pubic area were seen. Other parts of the body were not infected.

Dermoscopy with a noncontact and contact handheld dermoscope (DermLite Platinum and DermLite II PRO-HR, 3Gen, LLC) was done. Dermoscopy of affected hair showed nits containing an unhatched nymphs (Fig. 1) and translucent empty cases. Also, the *Phthirus pubis* was visualized (Fig. 2).

Treatment with lindane 1% shampoo was done in two cycles for 3 weeks, along with nit removal. The response to treatment was good. At control

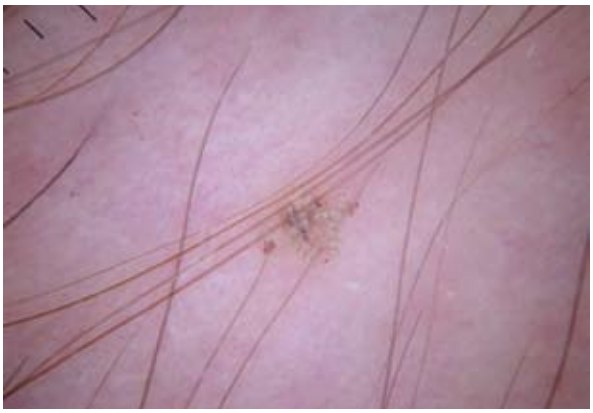

Figure 2. Alive *Phthirus pubis* seen under the handheld dermoscope: typical crab-like appearance with a short oval body and prominent claws (DermLite II PRO-HR, 3Gen, LLC; Sony DSC-P200). (original magnification X10)

visit the patient was free from any symptoms and no nits or lice were observed.

Dermoscopy is a noninvasive technique used in the evaluation of pigmented skin and nonpigmented skin lesions, particularly for the early detections of melanoma (3). Furthermore, it is also employed as an adjunct to clinical examination in general dermatology (4). "Entodermoscopy" is a new term employed for dermoscopy of skin infections and infestations, recently introduced by Zalaudek *et al.* (5). It is used for the diagnosis and treatment follow-up for viral warts, molluscum contagiosum, scabies, tinea nigra, tungiasis, cutaneous larva migrans, tics, and reactions to spider leg spins (5-9). Furthermore, it is well established in the diagnosis and treatment follow-up in pediculosis capitis and pubis (2,10,11). *In vivo* dermoscopic findings with noncontact handheld dermoscope of pediculosis capitis shows ovoid brown nits with nymphs, while empty cases are translucent with plane and fissured free ending (10). Practical technique with examination of the hair on transparent adherent tape with contact handheld dermoscope for the diagnosis of pediculosis capitis has been described (11). Alive and moving lice were seen in PP performing digital dermoscopy in real time projection on the monitor (2).

In our case, dermoscopy with noncontact and contact handheld dermoscope enabled us to establish a rapid diagnosis visualizing unhatched and hatched nits and lice, and also treatment follow-up. Therefore, *in vivo* dermoscopy is a safe, reliable and simple method in diagnosing and treatment monitoring of PP that can be used in daily routine.

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Anaphylactic Shock Caused by a Cosmetic Cream Applied Fourteen Hours Before Manifested on Medical Examination: Case Report

A case of a female patient who sought medical attention due to a severe, yet localized, dermatologic allergic reaction to a cosmetic cream is presented. A written informed consent was obtained from the patient for publishing this case, with mutual understanding that no photographs would be taken in support.

The patient applied the cream to her face in the evening before examination. The changes were strictly limited to the areas where the cream had been applied. On examination, the patient presented the package containing the respective cream but did not open it at any point. A few minutes later, while the necessary preparations were made to administer appropriate therapy, the patient fell to the floor, presenting the signs of anaphylactic shock. Immediate intervention including adrenaline administration proved efficient. We still cannot state for sure whether our patient developed an extremely delayed anaphylactic reaction, or the anaphylaxis was provoked by touching the unopened cream box, probably covered with a non-visible cream residue. Clinicians are strongly advised to exercise caution with all patients presenting with an acute localized skin allergy, and to advise patients to avoid any potential re-exposure, even to unbroken skin. Patients should also be instructed to avoid contact with items containing the documented or suspected allergen, due to the possibility of the packaging containing an invisible residue of the substance.

It has been widely recognized that almost any substance may induce an allergic reaction, as inert substances are rare. Life-threatening reactions such as anaphylaxis are only rarely induced by pure contact with unbroken skin. In case of damaged skin, passive cutaneous anaphylaxis may also develop. As a rule, anaphylactic reactions develop quickly.

There are no previously published cases of anaphylactic shock being caused by a presumed inert substance employed for cosmetic purposes, caused by pure contact with unbroken skin, and developing so suddenly, more than 10 hours after contact, as in the case presented.

The case presented was encountered at a general practitioner office. A young woman, not one of regular patients, asked for help because of a severe, yet localized, allergic skin reaction. Her whole face was extremely edematous, so much so that she was unable to open one eye and the other one only barely, by about 2 mm. The edema was strictly limited to the region of the face to which the cosmetic cream had been applied on the previous evening. The edematous edge was so clear that its thickness could be set at about 1-1.5 cm, and was not overlapping beyond the hairline.

In addition to the edema, the affected skin was bright red and covered with sores developed during the night, showing acute eczematous changes, with yellowish serous secretion. The patient complained of itching and burning in her face. She gave affirmative answer to the question whether she had put the cream onto her face with her bare hands. The next logical question was why her hands showed no effects at all. In response, she showed us two little papules on the dorsal side of one hand. She said she had washed her hands before going to sleep, after putting the cream onto her face. She had been using the very same cream regularly.

There were no other skin reactions, i.e. no itching, no urticaria, and no erythema on the other parts of her skin. No systemic reactions were observed either; her heart rate and blood pressure were normal; there was no dyspnea and no dysphagia in terms of swallowing disorder, or any bronchial spasm whatsoever. She talked normally, having a normal sound of her voice, and was fully conscious. Only the affected areas of her face had been aggressively altered by the substance.

On examination, she took the original package containing the cream she had applied to her face out of her handbag, and simply showed it to us, keeping it closed. In the next 15-20 minutes, while we were preparing her therapy (not yet administered corticosteroids), she presented with a new itching attack and a quickly developing erythema that progressed to generalized urticaria. We were not sure where it started; probably on her hands,

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as she subsequently claimed, but the onset was so rapid that we were unable to witness the starting localization. She developed tachycardia; her pulse became weak and almost impalpable. Struggling for air and with obvious fear and restlessness, she grasped her chest and finally fell from the chair down to the floor. The pulse over the carotid arteries was no longer palpable, the skin had turned grayish-blue, her blood pressure became immeasurable, and she lost consciousness. Her veins were already collapsed, but the standard anti-anaphylactic therapy was efficient, starting with adrenaline diluted with water in a 1:10 ratio. Upon resuscitation and the expected post-adrenaline reaction (severe tremor involving her whole body), she regained consciousness and gradually became stable.

The patient was observed in the surgery for the next 8 hours, but no additional reactions occurred. She refused to be referred to a hospital. The only proposal she accepted was to visit us on the next day. We also washed her hands again in order to remove any potential (although invisible) residue of the cream, and threw away the cream package to prevent any new possible reactions. We decided against washing the patient's face, as it seemed too vulnerable.

On the next day, only minimal improvement in the condition of the skin on her face was observed, however, on the day after improvement by some 30 percent was recorded. The circumstances did not allow appropriate tests to make (patient-traveler, refusing hospital treatment, maybe too ashamed, promising to make the tests when coming back to her country, cream box thrown away, unexpected situation at all, etc.).

This case posed at least three issues:

1) Was there something at the GP surgery that provoked a new severe allergic reaction?

- The patient denied any previous allergic manifestations, so she did not suffer from multiple allergies, reacting to many detected and undetected allergens.

- Prior to anaphylaxis, she had not taken any medication whatsoever. We were just preparing her therapy, but we were yet to administer it.

- Moreover, we left the patient in the office, separating her from other patients due to the severe disfiguration of her face. Therefore she was inside, waiting for about 40 minutes, inhaling the same air, and nothing happened until she touched the cream box during or possibly just after the examination. In addition, the reaction did not include bronchospasm, which is otherwise very common in allergies caused by inhalants or nutritive allergens.

2) Was it a markedly delayed generalized allergic reaction?

Even though very rare, anaphylaxis caused by simply touching an allergen has been previously documented. Such allergic reactions to contact allergens, even to the extent of anaphylaxis, were most commonly described with latex (1-3), but also many other allergens, and included cross-reactions in addition (1,3,4). It is also known that cosmetics, or their ingredients, may cause contact allergy (3,5-10). Both cosmetics and other contact allergens may lead to an anaphylactic reaction, or cause coexisting local and systemic life-threatening reactions (1-4,6,7,9-19). According to literature reports, type IV allergic reactions (cell-mediated, local reaction) do not necessarily exclude type I allergic reaction (anaphylaxis, immunoglobulin-mediated) (3,6,10,13,16,17). The two types of reactions, even only to contact allergen, might occur in the same person successively, one after another, or simultaneously, i.e. both at the same time. The presented patient had a combination of local and systemic allergic reaction; not triggered with physical activity, as in exercise-induced anaphylaxis (20). Such a severe reaction is more likely to be caused by a declared allergen (1,6,11), mostly with occupational daily exposure.

The case described is even more intriguing bearing in mind that the cream was claimed to be dermatologically tested and produced by a world-famous manufacturer. The phrase "dermatologically tested" does not mean that the product is safe for everyone (21,22).

Passive cutaneous anaphylaxis also occurs rapidly, but only if the allergen penetrates into the skin. The skin on our patient's hands was intact and nothing at all was given to her before the onset of the reaction described. However, classic anaphylactic reaction may develop by virtue of pure contact with unbroken skin (1,6,7,10-12).

By definition, anaphylactic reaction develops quickly. However, in this case, the anaphylactic reaction occurred about 12-14 hours after applying the cream to the face. The patient came with an obvious but localized reaction: severe changes on the skin of her face and two papules on the hand. The cream was on her face for the whole of the night, and, as it seems, she could well have died at any point during the night or the next morning. On her arrival, with the cream still on her unwashed face, she did not show a single sign of systemic allergy.

Medical literature lacks any documentation concerning anaphylaxis provoked by a contact

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allergen, constituting a cosmetic preparation applied to unbroken skin, especially not in case of allergy presenting after as many as 12-14 hours post-contact. There is a report on anaphylaxis due to such an allergen, which developed three hours after the application, as a reaction following repeated contact in occupational setting (6). Usually, it takes 5-30 minutes from exposure to the reaction.

3) Was it really a re-exposure to the allergen?

The reaction developed about 15-20 minutes after touching the cream packet. Nevertheless, the patient did not open the box, there was no visible residue of the cream on the box, and most importantly, the cream had already been applied to the patient's face and had not been washed off. By virtue of a strong time correspondence, and in absence of other convincing possibilities, this option seems to be most likely.

One possible explanation for this hypothesis is that the cream had some labile components, which could have been slightly chemically altered with intensive skin secretion over 10 hours. So, touching the cream again could be considered re-exposure. The second possible explanation is allergy to the perfume component, which is present in almost every cosmetic cream. The perfume could have evaporated from the skin during 10 hours and new contact could be re-exposure. Perfumes are well known allergens. The third and the simplest explanation is that the skin absorbed the allergen during the night.

It might also be useful to observe patients presenting with only local allergic reactions over a prolonged period, and not just to give them their therapy as soon as possible and let them walk away because complications of an unforeseen severity and nature may occur in the time to come.

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Human Dirofiliariasis in Croatia

Dear Editor,

I read with great interest the article "Subcutaneous dirofilariasis caused by *Dirofilaria repens* diagnosed by histopathologic and polymerase chain reaction analysis", published in the last issue of Acta Dermatovenerologica Croatica. The authors of the article describe a case of human dirofilariasis with typical subcutaneous presentation of the parasite. They cite this case as the fourth reported case of the disease in Croatia (1).

However, dirofilariasis in Croatia has been reported more frequently than it looks at the first glance. The main reason for this discrepancy is that some cases have been reported in journals and other publications with poor or no visibility.

The first case reported was the case of conjunctival dirofilariasis described by Bujger *et al.* in 1996, published in Ophthalmologia Croatica. Unaware of this case, due to its invisibility in the main journal databases, in 2003 Puizina-Ivić *et al.* reported two cases of the disease as the first cases of human dirofilariasis in Croatia. Actually, these were the first reported cases of the subcutaneous form of the disease in our country, followed by the case presented as subcutaneous mammary nodule (3,4). All of these subcutaneous cases were from the southern part of Croatia, where additional cases were frequently encountered and reported (5,6).

In 2007, another case of ocular dirofilariasis was reported, followed by two reported cases of the subcutaneous form of the disease, all from the inland part of Croatia (7,8).

In all of the reported cases, *Dirofilaria repens* was identified as the causative agent.

Altogether, including the case reported in your journal, at least 10 human cases of this emerging zoonosis have been reported in Croatia so far, confirming the conclusion by Marušić *et al.* that Croatia represents an endemic area, like other countries in the Mediterranean basin (1). As the majority of cases presented as subcutaneous nodules, dermatologists and dermatopathologists should familiarize themselves with the clinical and histologic aspects of the disease, considering it in the differential diagnosis of solitary nodules in subcutaneous tissue.

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Cosmetic products Nobilior; year 1929.
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