

Cases of eyelid lice in children

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Abstract

With the improvement of living environment and hygiene level, pubic lice of the eyelid is less common. Pubic lice is listed by WHO as one of the sexually transmitted diseases, which is mainly transmitted through sexual contact and is more common in adults. This article reports 2 cases of children with pubic lice on the eyelid. The cure has been achieved only by cutting the eyelashes, mechanically removing the pubic lice and treating with daily necessities.

Keywords

Pubic lice; Eyelid; Eyelash; Children; Hair; Mechanically removing the pubic lice.

Case Introduction

Case 1, In the early July of this year, a 4-year-old girl came to our department for «itchy eyes for 2 months». Eye examination: A large number of brown crust-like attachments can be seen on the eyelid margin, and a large number of transparent eggs adhering and crawling brown worms under the slit lamp (Figure 1A, a, B, b), mild conjunctival hyperemia, remaining anterior segment (-). Intensive brown granule-like neoplasms were found on the scalp and back of the neck (Figure 1C), no similar symptoms in the pubic bone, buttocks, perianal, axilla and other parts. There was no obvious abnormality in the close family members.

Case 2, a 4-year-old girl was admitted to the ophthalmology department on July 22, 2020 due to «two-day itching in both eyes». Slit lamp microscopy showed a small number of pinpoint-like bleeding spots on the skin of both eyelids and eyelashes. A large number of transparent and brown adults and eggs can be seen (Figure 3), the conjunctiva is slightly hyperemia, and the cornea is transparent.

Two girls denied the history of contact with infected water, epidemic area and animals. Examina-
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tion of their family also did not find similar conditions. They were treated with tobramycin eye drops after admission, and the next day under general anesthesia, pubic lice adults, eggs and a large number of brown crust-like secretions were seen under the microscope at the root of the eyelashes. Carefully moving the crust-like secretions (Figure 2), and see that the feet are pulled out from the skin and migrate to the eyelid margin. Cutting off the eyelashes of both eyes, and remove all the pubic lice adults and eggs attached to the root of the eyelashes with toothed forceps. The removed specimens are fixed with 75% alcohol and sent for inspection (Figure 4). The eyelid skin was rinsed with normal saline, and tobramycin eye ointment was applied twice a day after surgery. The patient's family were instructed to shave their hair immediately, and their daily necessities were boiled in boiling water and exposed to the sun. Two weeks later, no obvious abnormality was found in the hair, eyelashes, and eyebrows of the two patients in the outpatient reexamination. After 2 month, there was no recurrence in the reexamination.

Discussion

The human lice originated from the great ape sucking louse, and was split into chimpanzee louse and gorilla louse 75 million years ago, the former evolved into head louse and body louse, and the latter evolved into human pubic louse [1]. Pubic lice adults are generally transparent, and turn reddish-brown when they feed on human blood. Adult pubic lice is wide and short like a crab, 0.8-1.2 mm long, with thin front claws, thick middle and hind feet, pincer-like, which can tightly hold human pubic hair, other thick hair and clothing fibers [1,2]. Pubic lice live about 3-4 weeks, the adult female lice can lay 3-10 eggs per day, these eggs can transition to adulthood within 10 days. Through an analysis of Google Trends, Simonart found that the most infected pubic lice are in the Middle East countries, which may be related to the poor sanitary conditions [3]. In addition, the best growth temperature of pubic lice is about 30°C. Once the temperature exceeds 50°C, they will die. Simonart [3] showed that May is the key season for pubic lice in the northern hemisphere, and our cases were both treated in July, which was the best environment for pubic lice to grow before.

Due to the limited number of reported patients, the exact incidence of pubic lice is difficult to estimate, some studies suggest that its incidence may vary from 0.3% to 4.6%, and the prevalence of pubic lice in the adult is 2% [4]. The pubic lice often associated with sexually transmitted infections [5], studies have shown that the populations with the highest rates of pubic lice are similar to those of gonorrhea and syphilis: single and those between the ages of 15 and 25, while children, the elderly relatively rare. Most studies have emphasized that pubic lice infection in children is mostly indicative of sexual abuse [6], or caused by direct contact with close people who carry it [7]. The two girls in our study living in the city all the year round, with good hygiene habits, no sexually transmitted diseases in family, and no history of sexual abuse. We speculate that two girls may have played with children with pubic lice in kindergartens shared towels and naps together. Our study also found that both patients had straight hair. We believe that straight hair may be more conducive to the climbing and migration for pubic lice, which may also be one of the factors that are easily transmitted by others.

Humans infected with pubic lice usually feel itchy perineal skin. Some patients who with exuberant



Figure 1: Before surgery: photographs of the anterior segment of both eyes and the back of the neck.
 (A: Preoperative photograph of the anterior segment of the right eye, a: Preoperative partial magnification of the right eye ($\times 64$), B: Preoperative photograph of the left eye anterior segment, b: Preoperative partial magnification of the left eye ($\times 64$), C: Hair root and back neck).

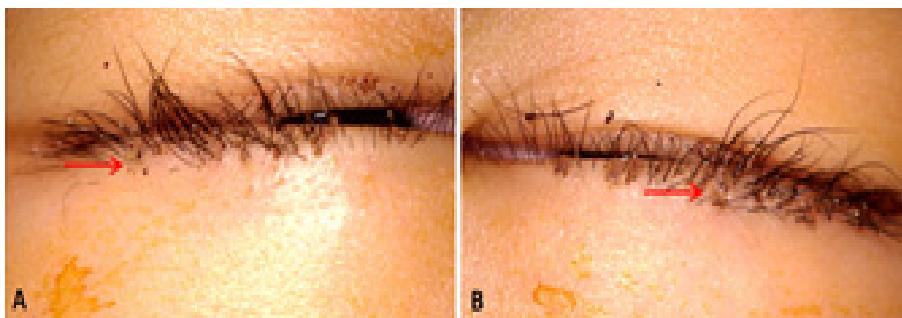


Figure 2: Intraoperative pictures of the anterior segment of both eyes (A: right eye, B: left eye).

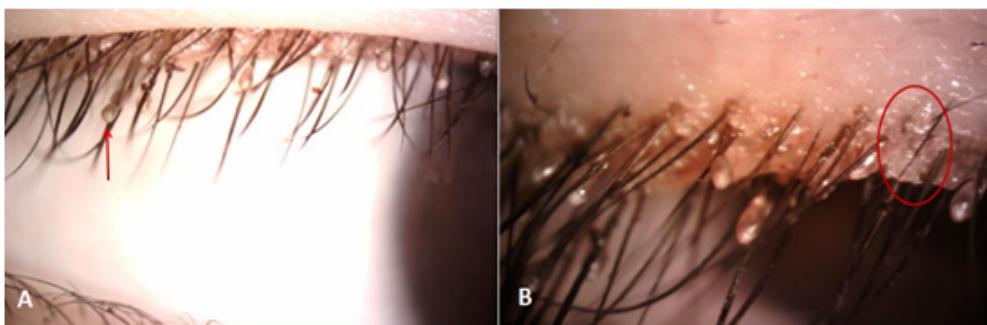


Figure 3: Photograph of the anterior segment of both eyes. (A: right eye, "→" egg B: left eye, "○" adult)

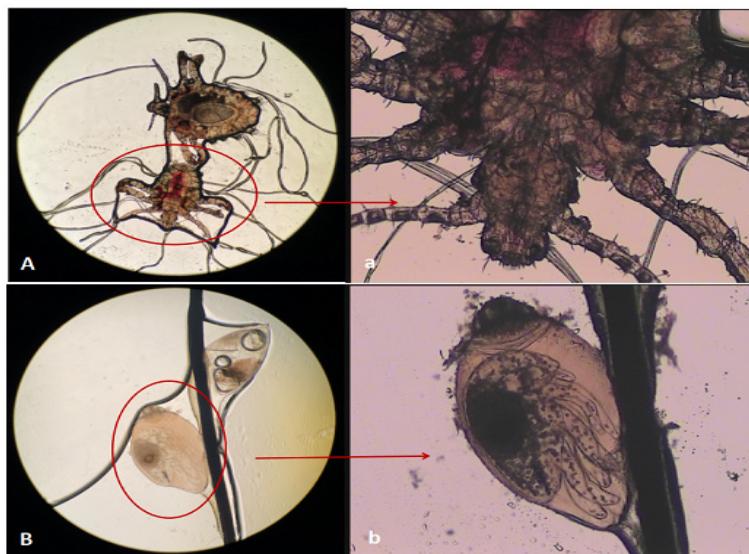


Figure 4: Pubic lice and eggs under the light microscope.

(A: Pubic pubic lice adult was obtained in case 1, a with partial magnification of light microscope ($\times 16$), B case 1 obtained pubic pubic lice eggs, b light microscope with partial magnification ($\times 16$))

hair or Infection with pubic lice for a long time may have unbearable itching on the scalp, chest, abdomen, armpits, and even the eyelid margins [8,9], and the skin is congested, sometimes a flaky rash can be seen. When pubic lice invade the eyelashes, in addition to feeling eye itching and increased secretions from the eyelid margin, there may also be eyelashes falling off, eyelid edema, conjunctivitis. Even endanger the patient's vision . Because of their small size and translucent color, It is difficult to distinguish with the naked eye, and their ocular symptoms are easily confused with blepharitis and other eyelid pediculosis [10,11]. Therefore, slit-lamp microscopy is essential for correct diagnosis [9,12,13]. However, misdiagnosis is prone to occur when louse damage is severe, MALDI-TOF MS can be used as a rapid and accurate tool at this time [14]. In our study, both patients feeled itching of eyes. The eyelid margins were slightly congested, and a lot of crust-like secretions were attached to the roots of the eyelashes. Under the slit lamp microscope, A large number of pubic lice adults, eggs, and crust-like secretions could be found on their hair and eyelashes (Figures 1 and 2). In case 1, a small number of adult were also seen on the left eyebrow. During the operation, we used a microscope to find that the scab-like secretion was actually an adult integrated with the exrement. Its feet are stuck in the superficial part of the skin to suck human blood, produced Saliva and feces, which are rust-colored deposits. Pubic lice are not easy to be found in static state, more attention should be paid to distinguishing them. During the operation, all the adults and eggs were fully conformed to the characteristics of pubic lice, which further clarified our diagnosis. This reminds doctors to check carefully for patients with itchy eyes during this time, to prevent missed diagnosis.

For eyelid pubic lice, previous studies have proposed many treatments, such as: eyelash clipping, removal of adults and eggs, argon laser therapy, cryotherapy, topical eye ointment (gamma-benzene hexachloride cream, 1% mercury oxide, moxifloxacin, petrolatum), malathion shampoo, 1% permethrin lotion, 50% tea tree oil and 20% fluorescein eye drops, etc. [7]. Among them, cutting eyelashes and removing lice are the most effective and fundamental treatments, but some studies believe that topical or systemic treatment should be supplemented to prevent the recurrence of pubic lice [13]. Most topical ointments,

50% tea tree oil and 20% fluorescein are considered to be used to seal off pubic lice and do not have killing properties, but these drugs are more irritating to the eyes. Malathion shampoo and 1% permethrin lotion are mostly used to remove pubic lice on the vulva and scalp, but not for the eyes. Cryotherapy, argon laser or botulinum toxin are used in where pubic lice are difficult to remove, and these treatments are invasive and expensive. In this study, pubic lice not only attached to the scalp, but also infected the eyelashes. If treated with argon laser, freezing, malafosin shampoo and 20% fluorescent dye, it will be more irritating to the eyes and may damage vision. Therefore, we have cutted the eyelashes under the microscope, and then removed all the adult and eggs from the roots of the eyelashes with tweezers on the second day. Then giving Antibiotic eye ointment twice a day, on the one hand to seal off the pubic lice that are not completely removed and to suffocate them, on the other hand to prevent bacterial infection. In addition, Ngai et al. [13] also proposed to wash all the patient's daily necessities at a temperature of $\geq 50^{\circ}\text{C}$ within 2-3 days, and dry them in a thermal cycle for 5-10 minutes. The study also instructed the family to cut off all the patient's hair immediately, and boil the daily necessities with boiling water to avoid recurrence.

In this study, cutting off all of the eyelashes of the patients, removing the public lice attached to the eyelashes, using antibiotic eye ointment, and cutting all hair, handling daily necessities has achieved the purpose of killing all pubic lice without recurrence. The price is low, the method is rapid, and the effect is remarkable. Once again, it is verified that the eyelashes are cut off. And the importance of mechanically removing pubic lice.

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