

# Phthiriasis palpebrarum misdiagnosed as allergic blepharoconjunctivitis in a 6-year-old girl

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## Abstract

Phthiriasis palpebrarum is an infestation of the eyelashes caused by the louse *Pthirus pubis* (Linnaeus, 1758). We report a case of phthiriasis palpebrarum in a 6-year-old girl, which was initially misdiagnosed as allergic blepharoconjunctivitis. Parasites and their nits were found adhering to the eyelashes and eyelids of her right eye as well as scalp hairs. No abnormality was found in the left eye. The histopathology exam revealed the presence of adults and eggs of *Pthirus pubis*. We mechanically removed all the eyelashes of the right eye at their base, with lice and nits. The scalp was shaved and washed with phenothrin shampoo. No recurrence was found during 3 months of follow-up. Removal of the eyelashes, cutting of scalp hairs, and phenothrin shampoo may be effective in treating phthiriasis palpebrarum. In cases of blepharoconjunctivitis, eyelids and eyelashes should be carefully examined by slit lamp to avoid misdiagnosis.

**Key words:** Blepharoconjunctivitis, crab louse, eyelashes, nits, pthirus pubis, phthiriasis palpebrarum

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## Introduction

Phthiriasis palpebrarum is an infestation of the eyelashes by the crab (pubic) louse, *Pthirus pubis* (Linnaeus, 1758), and its ova. This infestation can cause pruritic lid margins or blepharoconjunctivitis. Signs and symptoms of phthiriasis palpebrarum consisting of color changes in eyelids and excretions over eyelashes are also consistent with allergic blepharoconjunctivitis. Therefore, either disease can be easily misdiagnosed.

Phthiriasis palpebrarum is a rare cause of blepharoconjunctivitis and is often unrecognized because of the louse's semi-transparent body and its deep burrowing into the eyelid margin.<sup>[1]</sup> Other ocular signs and symptoms of the disease include itchy eye and gritty sensation, blepharitis, follicular conjunctivitis, and marginal keratitis.

## Case Report

A 6-year-old girl visited the Department of Ophthalmology, Shanghai First Affiliated People's Hospital, Shanghai Jiaotong University, and complained of itchiness in the right eye of 3 months duration. She had visited another hospital where a diagnosis of allergic blepharoconjunctivitis was made. However, the patient's itchiness continued to exacerbate after anti-allergic treatment. We performed a careful physical examination and found five adult crab-like lice, multiple red pinpoint excretions, and numerous small translucent oval eggs (nits) adhering to the eyelashes and eyelids of the girl [Figure 1]. Two of the lice were partially buried into the eyelid skin and the others clung to the eyelashes. Lice were also found among the scalp hairs. All other hair-bearing skin was inspected for lice and nits,

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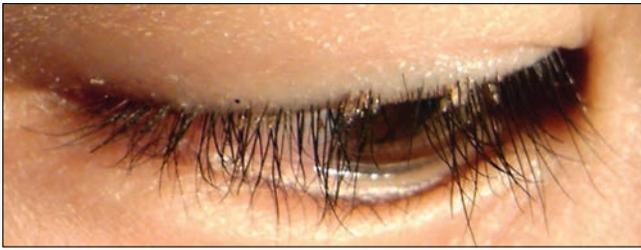
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**Figure 1:** Phthiriasis palpebrarum. crab lice and nits are attached to the eyelashes

including the eyebrows, axillae, and pubic area, but neither were seen.

We mechanically removed all the eyelashes of the right eye from their base, including the lice and nits, by pulling with fine forceps under a slit lamp microscope, with no anesthetic or other drugs applied. The scalp hairs were all shaved off, and the scalp was washed with phenothrin shampoo. Via histopathology, the distinctive crab louse-like appearance of the insect specimens proved to be the adults and eggs of *Pthirus pubis* [Figure 2]. This louse was also found in one of the plush toys of the girl. Her parents denied having the same condition or history of sexually transmitted disease. They were advised to wash all clothing and other fomites of this girl. The contaminated plush toy was burned to kill the parasite. At the 3-month follow-up, neither louse nor nit was found either on the eye or in the hair.

### Discussion

Phthiriasis palpebrarum is an uncommon and easily overlooked cause of blepharoconjunctivitis and is due to the crab louse *Pthirus pubis*, which is primarily adapted to living in pubic hair.<sup>[2]</sup> An infected person may transfer the louse from one hairy area to another, and any hair-bearing area could become infested. However, infestation of the eyelashes is uncommon in healthy adults. In the present case, we found that lice had partially burrowed into the eyelid skin, and small translucent oval eggs (nits) were adhering to the eyelashes and eyelids. In clinic, these signs often go unrecognized, especially when ocular symptoms are not obvious, but eyelids and eyelashes should be carefully examined by slit lamp to avoid misdiagnosis. In children, eyelashes are the most common site of infestation.<sup>[3]</sup> Children are usually infected through direct passage of the lice from their parents or other infected contacts.<sup>[4]</sup> In this case, the contaminated plush toy might have been the main cause. We also found lice in the scalp hairs of this girl. Kiran et al.<sup>[5]</sup> also recently reported a 70-year-old woman who complained of repeated episodes of itching, and redness and watering in both eyes for 3 months with no any improvement after treatment with antibiotics. During the slit lamp examination, the lice and nits anchored to the eyelashes were finally found. Therefore, all hair-bearing areas should be examined carefully if an infestation in any hair-bearing area is found.



**Figure 2:** Microscopic view of crab louse *Pthirus pubis* grasping the cilia (unstained, ×40)

Infestation with *Pthirus pubis* is usually associated with poor hygiene in an overcrowded environment. Ngai et al.<sup>[6]</sup> recommended that within two to three days of the start of treatment, clothing, towels, and bedding used by the patient should be mechanically washed (with water at least 55°C) and dried on the hot cycle for 5-10 minutes. Items that cannot be washed should be dry cleaned or stored in a sealed plastic bag for at least two weeks. *Pthirus pubis* in adults is frequently transmitted sexually, so a screen for other sexually transmitted infections should also be done.

Previously reported treatments for phthiriasis palpebrarum include trimming or plucking the eye lashes, mechanical removal of the lice with fine forceps, cryotherapy, argon laser photocoagulation, traumatic amputation, fluorescein eye drops 20%, physostigmine 0.25%, lindane 1%, petroleum jelly, yellow mercuric oxide 1%, malathion drops 1% or malathion shampoo 1%, and oral ivermectin and pilocarpine drops 4%.<sup>[7,8]</sup> In the present case, we mechanically removed all the lice and nits buried in the eyelids with fine forceps under slit lamp microscopy, and cut off the eyelashes and scalp hair. No drug was used in the eye, to prevent ocular irritation or adverse side-effects known to exist for children.<sup>[9]</sup> Neither adults nor eggs of *Pthirus pubis* were found during follow-up visits. Thus, we believe that the removal of eyelashes and scalp hairs combined with phenothrin shampoo may be effective in treating phthiriasis palpebrarum. The average lifespan of adult lice is less than one month, and they will die within 24 to 48 hours if they are removed from their hosts,<sup>[2]</sup> as the hair-shaft habitat is essential to crab louse survival and reproduction.<sup>[9]</sup>

In summary, blepharoconjunctivitis is commonly misdiagnosed as bacterial, viral, or allergic conjunctivitis or seborrheic dermatitis. As a result, it is suggested that eyelids and eyelashes

should be carefully examined by slit lamp to avoid misdiagnosis in cases where blepharoconjunctivitis is considered.

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