Case Report
Olgu Sunumu
Turkiye Parazitol Derg
DOI: 10.4274/tpd.galenos.2025.66934

The Hidden Danger in the Eyelids: Diagnosis and Treatment of Bilateral Phthiriasis Palpebrarum — A Rare Pediatric Case Report

Göz Kapaklarındaki Gizli Tehlike: Bilateral Phthiriasis Palpebrarum Tanısı ve Tedavisi — Nadir Bir Pediyatrik Olgu Raporu

Yusuf Samet Atlıhan[1], Olgar Öcal[1], Recep Uğur[1], Şule Saraçoğlu Yılmaz[2], Hatice Deniz İlhan[1]

[1]Akdeniz University Hospital, Department of Ophthalmology, Antalya, Türkiye
[2]University of Health Sciences Türkiye, Antalya Training and Research Hospital, Department of Clinial Microbiology, Antalya, Türkiye

Cite this article as: Atlıhan YS, Öcal O, Uğur R, Saraçoğlu Yılmaz Ş, İlhan HD. The hidden danger in the eyelids: diagnosis and treatment of bilateral phthiriasis palpebrarum — a rare pediatric case report. Turkiye Parazitol Derg. [Epub Ahead of Print]

ABSTRACT

Phthiriasis palpebrarum is a rare infestation of the eyelids caused by *Phthirus pubis*. This condition is particularly noteworthy as it is a rare cause of red eyes in children and can often be confused with other forms of blepharoconjunctivitis. In this study, we examined an 11-year-old male patient who was brought to our clinic by his family and presented with redness and itching in both eyes that had persisted for a month. Biomicroscopic examination revealed two live lice with mobile legs and a semi-transparent appearance on the eyelashes of both upper eyelids, together with a large number of eggs, particularly concentrated on the right eye. No foreign body was found in the eye. After the necessary protective measures had been taken, the lice and their eggs were carefully removed from the eyelashes using forceps. The parasitological examination of eyelash samples confirmed the presence of adult lice and eggs of *Pthirus pubis*. After a suitable treatment plan was developed and detailed hygiene recommendations were thoroughly explained, the patient was discharged. During the follow-up examination conducted one week later, no lice or eggs were detected on the eyelashes, and the blepharoconjunctivitis had regressed.
Keywords: Blepharitis, phthiriasis palpebrarum, *Pthirus pubis*

ÖZ

Phthiriasis palpebrarum, *Phthirus pubis*'in etkeni olduğu nadir görülen bir göz kapağı enfestasyonudur. Genellikle diğer blefarokonjonktivit nedenleri ile karıştırılabilen bu durum, özellikle pediatrik kırmızı göz olgularının nadir bir sebebi olarak dikkat çeker. Bu çalışmada, her iki gözde bir aydır devam eden kızarıklık ve kaşıntı şikayetleriyle ailesi tarafından kliniğimize getirilen on bir yaşındaki bir erkek hastayı değerlendirmeyi ve bu olguya ışık tutmayı amaçladık. Biyomikroskopik incelemede, her iki üst göz kapağının kirpiklerinde hareketli ayaklara sahip, yarı şeffaf görünümde iki canlı bit ve özellikle sağda yoğunlaşmış çok sayıda yumurta tespit edildi. Göz içinde ise herhangi bir yabancı cisme rastlanmadı. Gerekli koruyucu önlemler alındıktan sonra bitler ve yumurtaları tutundukları kirpiklerden dikkatli bir biçimde penset yardımıyla uzaklaştırıldı. Kirpiklerden alınan örneklerin parazitolojik incelemesinde erişkin *Pthirus pubis* ve yumurtaları olduğu saptandı. Uygun tedavi planı oluşturulup gerekli hijyen önerileri detaylı bir şekilde anlatıldıktan sonra hasta taburcu edildi. Bir hafta sonra yapılan kontrol muayenesinde, kirpiklerde herhangi bir bit veya yumurtaya rastlanmadı ve blefarokonjonktivitin gerilediği gözlendi.
Anahtar Kelimeler: Blefarit, phthiriasis palpebrarum, *Pthirus pubis*

INTRODUCTION

Pediculosis pubis is mainly transmitted through sexual contact or close physical interaction. It usually occurs in the pubic region, although it can also affect the scalp, armpits, eyebrows or eyelashes (phthiriasis palpebrarum). It is considered a rare cause of blepharoconjunctivitis (1). Pubic lice are spread through sexual contact in adults and adolescents. They can be transmitted from contaminated hands to the eyelashes. In children, transmission occurs through close contact, sleeping in the same bed with infected

Received/Geliş Tarihi: 17.03.2025 **Accepted/Kabul Tarihi:** 26.08.2025 **Epub:** 09.09.2025

Address for Correspondence/Yazar Adresi: Yusuf Samet Atlıhan MD, Akdeniz University Hospital, Department of Ophthalmology, Antalya, Türkiye
E-mail/E-Posta: ysf20smt@gmail.com **ORCID ID:** orcid.org/0000-0001-8761-6104

Türkiye PARAZİTOLOJİ Dergisi

parents or sharing objects, and sexual abuse (2). The associated blepharoconjunctivitis may be due to a hypersensitivity reaction to the parasite and can therefore be misdiagnosed as allergic blepharoconjunctivitis (3). Although infestation occurs in all age groups, especially in poor hygienic conditions and in chronic, treatment-resistant blepharitis, this diagnosis should be kept in mind, especially in pediatric cases (4). Such infestations can be easily overlooked or evaluated as simple blepharitis if only the ocular surface is considered during biomicroscopic examination and the examination of the eyelids is ignored (5). In this study, we report a case of isolated bilateral palpebral involvement presenting as blepharoconjunctivitis in an 11-year-old boy.

CASE REPORT

An 11-year-old male patient presented to our clinic complaining of redness and itching in both eyes that had persisted for one month. According to his family, he had previously seen a doctor, but his symptoms persisted despite treatment. Corrected distance visual acuity was 20/20 in both eyes. Biomicroscopic examination revealed two semi-transparent live lice with mobile legs on the eyelashes of both upper eyelids, along with numerous oval whitish eggs, particularly concentrated on the right side (Figure 1). The conjunctiva appeared hyperemic, with follicular structures observed beneath the eyelids (Figure 2). Aside from this, the anterior and posterior segment examinations were deemed normal. No foreign body was found in the eye. Topical pilocarpine hydrochloride (pilosed 2%, Bilim İlaç) and cyclopentolate hydrochloride (sikloplejin 1%, Abdi İbrahim İlaç) drops were applied to the roots of the eyelashes. After local anesthesia with proparacaine hydrochloride (alcaine 0.5%, Alcon), the immobilized lice and their eggs were carefully removed mechanically with forceps from the eyelashes to which they were attached, observing the necessary protective measures, and collected in a container for parasitological examination (Figure 3). The procedure was terminated after ensuring that all lice and eggs had been removed. To avoid possible contamination, a biomicroscope was preferred, which was not actively used in the procedure, and the biomicroscope was cleaned with bleach after the procedure. Parasitological examination of the samples taken from the eyelashes revealed adult lice and eggs of *Pthirus pubis* (Figures 4-6). As a treatment, it was recommended to apply tobramycin eye ointment (tobrased 0.3%, Bilim İlaç) together with liquid vaseline (petrolatum compound) to the eyelashes three times a day, then comb the eyelashes and clean them with tea tree oil. Although there were no complaints in the family members, no parasites were found during examinations for asymptomatic infestation. It was explained that the use of shared objects should be avoided, that clothes and bedding should be washed at high temperatures and then ironed with high steam pressure and that maximum hygiene should be observed. The family's socio-economic status was good and they were educated people. When the cause of the infestation was investigated, no suspicion of sexual abuse arose, and there were no individuals in the patient's surroundings with similar symptoms. It was observed that both the family and the patient maintained good personal hygiene. A dermatological examination was carried out due to the suspicion of a possible lice infestation on other parts of the body. However, it was found that no infestation with *P. pubis* was found on other parts of the body during the examination. At the follow-up examination, which was performed 1 week later, it was found that the patient's complaints of irritation and redness had disappeared. On biomicroscopic examination, it was found that the lice and eggs in the eyelashes had completely disappeared and the blepharoconjunctivitis had regressed. The case and the family were informed about personal hygiene and possible transmission routes of the infestation. In addition, written informed consent was obtained.

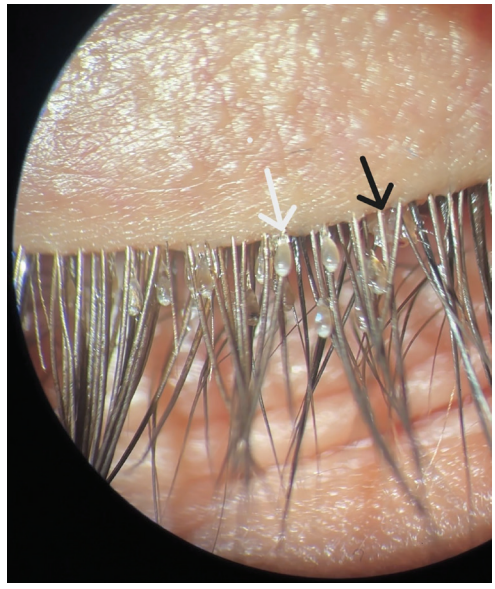

Figure 1. White arrow: Oval, greyish-white egg of a louse hanging from an eyelash. Black arrow: Live, translucent adult louse firmly attached to an eyelash (the photos were taken with a biomicroscope at X16 magnification)

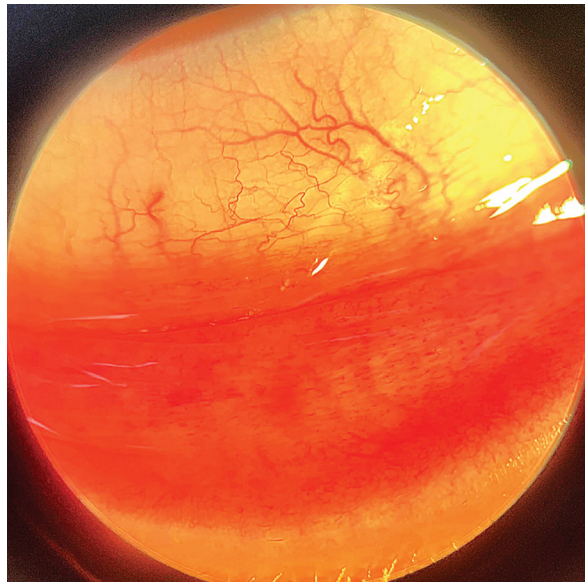

Figure 2. The conjunctiva appeared hyperemic and follicular structures were observed under the eyelids (the photos were taken with a biomicroscope at X16 magnification)

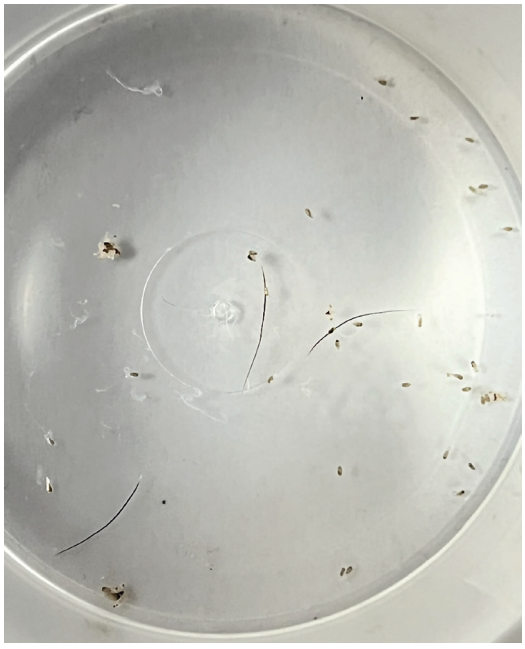

Figure 3. After mechanical cleaning with forceps, eggs and lice were collected for parasitological examination

Figure 5. Light microscopic examination of a young egg of *Phthirus pubis* at ×10 magnification. The egg measured approximately 1 mm in length and 0.4 mm in width (scale bar: 1 mm)

Figure 4. Light microscopic examination of an adult Phthirus pubis at ×4 magnification. The specimen measured approximately 1.4 mm in length and 0.8 mm in width (scale bar: 1 mm)

Figure 6. Light microscopic examination of a mature and hatching lice egg of *Phthirus pubis* at X10 magnification. The egg measured approximately 1.2 mm in length and 0.4 mm in width (scale bar: 1 mm)

DISCUSSION

Human lice are a public health problem affecting millions of people worldwide, especially in developing countries. Lice have been known for over 10,000 years, and the oldest human lice eggs were found on a hair shaft in an archaeological study (6). Human lice typically occur in the form of head lice in 19% of school children and in the form of pubic lice in 2% of the adult population (7).

Human blood-sucking lice belong to two families: *Pediculidae* and *Pthiridae*, with the corresponding genera being *Pediculus* and *Pthirus*, respectively. *Pediculus humanus capitis* denotes the head louse, while *P. pubis* refers to the pubic louse, also known as the crab louse. *P. pubis* prefers to cling to thick, stiff hair such as pubic hair, eyelashes and eyebrows, but can also infest other parts of the body (8).

P. pubis is about 0.8-1.2 mm long and has three pairs of legs. The first pair of legs is short and weak, while the other two pairs end in crab-like claws that can cling to pubic or other body hair (Figure 4). *P. pubis* lays 50 eggs during its lifetime (Figures 5, 6) and adult lice die at temperatures above 40 degrees. The eggs can survive 15-60 minutes in a 60-degree wash (9).

In adults, infestation with eye lice is usually caused by the transfer of pubic lice from the pubic area to the eyelid area by scratching and rubbing the eyes; in children, infestation with eye lice is caused by close contact with adults and the use of shared objects. It should also be borne in mind that children may have been sexually abused because they do not yet have terminal body hair. Although phthiriasis palpebrarum is most commonly reported in school-age children and adults, it has been documented even in the neonatal period. However, in Türkiye, reliable epidemiological data on the annual incidence of phthiriasis palpebrarum are lacking, and the literature consists mainly of isolated case reports. In pediatric cases, eyelash involvement requires particular caution. Although transmission may occur through non-sexual routes, the possibility of sexual abuse must always be assessed within the scope of forensic medicine and social services. According to current legislation in Türkiye, physicians have a mandatory reporting obligation in such cases (10,11). Adult patients should also be screened for diseases transmitted through sexual contact. In view of the fact that the disease can be transmitted through sexual contact, it is recommended that partners be examined and treatment initiated if necessary. To prevent recurrence of the disease, the patient should be advised on personal hygiene and cleaning of shared objects. Contaminated cosmetics should not be reused and items such as clothing, towels and sheets should be washed at a high temperature (60 °C) for 30-60 minutes and then ironed at a high temperature (11).

In the treatment of phthiriasis palpebrarum, it is usually sufficient to remove the lice and eggs mechanically with tweezers or to cut off the eyelashes and then apply petrolatum ointment to the eyelids two or three times a day for 10 days. Petrolatum ointment kills the lice, prevents the lice from attaching to the eyelashes and prevents them from hatching (12). Other effective topical treatments include 0.3% tobramycin eye ointment, 0.5% moxifloxacin eye ointment, physostigmine ointment, 1% malathion shampoo, 1% yellow mercuric oxide eye ointment, parasympathomimetics such as 4% pilocarpine gel, topical botulinum toxin and 20% fluorescein drops. Topical antiparasitics such as natural pyrethrin, 1% permethrin, 0.2% phenothrin may also be prescribed. In cases that are not treated for a long period of time, secondary bacterial infections may occur. In such a case, treatment should be supplemented with topical antibiotic drops and ointments. In cases where itching and irritation are severe, topical treatment with antihistamines may be recommended to relieve symptoms (13,14). Tea tree oil, known for its broad spectrum antimicrobial and anti-inflammatory properties, has also been shown to be effective in treatment (15). Inactivation of lice and eggs by argon laser phototherapy and mechanical removal has also been shown to be effective (16). Although there are various alternatives and newly proposed methods in the treatment of phthiriasis palpebrarum, the treatment process is difficult and no clear consensus has been reached.

CONCLUSION

In persistent and unresponsive cases of blepharoconjunctivitis, phthiriasis palpebrarum should be considered a potential diagnosis. Eggs and lice can be detected through a careful eyelid examination using a biomicroscope with X40 magnification. While various treatment approaches exist, mechanical cleaning and the application of liquid petroleum jelly are often sufficient. Special attention should be given to the possibility of sexual abuse, especially in pediatric cases. If suspicion arises, a multidisciplinary approach involving pediatrics for potential child abuse and dermatology for sexually transmitted diseases is essential. Phthiriasis palpebrarum can be seen not only in individuals from low socioeconomic backgrounds but also in the general population.

*Ethics

Informed Consent: The case and the family were informed about personal hygiene and possible transmission routes of the infestation. In addition, written informed consent was obtained.

Footnotes

The authors received no funding for the research, authorship, and/or publication of this article from any government or private institution. We didn't use generative artificial intelligence (AI) and AI-assisted technologies in writing.

*Authorship Contributions

Concept: Y.S.A., R.U., Design: Y.S.A., R.U., Ş.S.Y., Data Collection or Processing: Ş.S.Y., Analysis or Interpretation: Y.S.A., R.U., H.D.İ., O.Ö., Ş.S.Y., Literature Search: Y.S.A., R.U., O.Ö., Writing: Y.S.A.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support.

REFERENCES

1. Salavastru CM, Chosidow O, Janier M, Tiplica GS. European guideline for the management of pediculosis pubis. J Eur Acad Dermatol Venereol. 2017; 31: 1425-8.
2. Charfi F, Ben Zina Z, Maazoun M, Kharrat W, Sellami D, Makni F, et al. Phtiriase ciliaire de l'enfant. Diagnostic et traitement [Phthiriasis pubis palpebrarum in children. Diagnosis and treatment]. J Fr Ophtalmol. 2005; 28: 765-8. French.
3. Yi JW, Li L, Luo da W. Phthiriasis palpebrarum misdiagnosed as allergic blepharoconjunctivitis in a 6-year-old girl. Niger J Clin Pract. 2014; 17: 537-9.

4. Keklikci U, Cakmak A, Akpolat N, Unlu K, Ozkul S. Phthiriasis palpebrarum in an infant. J Pediatr Ophthalmol Strabismus. 2009; 46: 173-4.
5. Altınsoy F, Alver O, Doğanay S. A rare case of blebharitis: phthiriasis palpebrarum. Turkiye Parazitol Derg. 2018; 42: 90-2.
6. Amanzougaghene N, Fenollar F, Raoult D, Mediannikov O. Where are we with human lice? A review of the current state of knowledge. Front Cell Infect Microbiol. 2020; 9: 474.
7. Hatam-Nahavandi K, Ahmadpour E, Pashazadeh F, Dezhkam A, Zarean M, Rafiei-Sefiddashti R, et al. Pediculosis capitis among school-age students worldwide as an emerging public health concern: a systematic review and meta-analysis of past five decades. Parasitol Res. 2020; 119: 3125-43.
8. Light JE, Allen JM, Long LM, Carter TE, Barrow L, Suren G, et al. Geographic distributions and origins of human head lice (*Pediculus humanus capitis*) based on mitochondrial data. J Parasitol. 2008; 94: 1275-81.
9. Ko CJ, Elston DM. Pediculosis. J Am Acad Dermatol. 2004; 50: 1-12; quiz 13-4.
10. Ozer PA, Kabatas EU, Gurkan A, Kurtul BE. Treatment of phthiriasis palpebrarum mimicking conjunctivitis in a newborn. Indian J Pediatr. 2016; 83: 730-1.
11. Ryan MF. Phthiriasis palpebrarum infection: a concern for child abuse. J Emerg Med. 2014; 46: e159-62.
12. Yarbag A, Yazar H, Köroğlu M, Demiray T. Phthiriasis palpebrarum case treated with a new medical approach. Sakarya Med J. March 2016; 6: 38-41.
13. Gurnani B, Badri T, Hafsi W. Phthiriasis palpebrarum. 2024 Oct 6. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-.
14. Yıldırım Can H, Çeken N. Unilateral phthiriasis palpebrarum: a case study. Turkiye Parazitol Derg. 2021; 45: 80-2. English. Erratum in: Turkiye Parazitol Derg. 2021; 45: 164.
15. Asanad S, Panchal B, Munir WM. Phthiriasis palpebrarum effectively treated with tea tree oil. Am J Clin Exp Immunol. 2023; 12: 45-8.
16. Sundu C, Dinç E, Kurtuluş UC, Yıldırım Ö. Common blepharitis related to phthiriasis palpebrarum: argon laser phototherapy. Turkiye Parazitol Derg. 2015; 39: 252-4.