

PHTHIRIASIS PALPEBRARUM

Sujatha Vijayalekshmi

*Department of Ophthalmology, MVJ Medical College, Hoskote, India***Source of Support:**

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Corresponding author: Dr. Sujatha Vijayalekshmidrsujatha2006@yahoo.co.in

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Abstract

Phthiriasis palpebrarum of the eyelashes is not an uncommon condition when hygienic condition are inadequate. The lice occupy, chiefly, the roots of the eyelashes, to which they cling tenaciously, while the shafts of the cilia are covered with their brown nits. The patients with the symptom of pruritus of the eyelids and with clinical findings resembling exfoliation on the surface of lid skin and seborrhea accumulation on eyelashes must carefully be examined by slit lamp in order to avoid misdiagnosis. In the cases diagnosed as having lid eczema and seborrheic blepharitis, lice and nits might easily be overlooked and treatment might remain ineffective. Various treatment options are available from medical; mechanical removal of nits and lice, cryotherapy. In this short review we are describing in details about the organism, clinical features, mode of transmission, treatment about Phthiriasis palpebrarum.

Key words: eye lashes; crab louse, nits; phthiriasis palpebrarum**Cite this article:**

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Introduction

Lice are wingless insects, which can produce three types of pediculosis in human beings when hygienic conditions are inadequate. They are *Pediculus pubis* (crab lice), *Pediculus capitis* (head lice), *Pediculus corporis* (body lice). Among them *Pediculus pubis* infest mainly the hairs of genital region; however infestation of axilla, beard, eyebrows and eyelashes (*Phthiriasis palpebrarum*) may occur.

Character of Pediculi

Pediculi belong to the *Phylum Arthropoda*. Class *Insecta* and order *Hemiptera*. The body of these organisms is divided into head, thorax and abdomen. Three pairs of legs are present on thorax. They are wingless insects and they have piercing and sucking mouthparts. The insect is about 1/12 inch long and is oval in shape. The hominophilous, haematophagous parasite resembles the head and body louse except its second and third pairs of legs and claws are stouter. The abdomen is more or less telescopic so that the first three abdominal spiracles (segments 3, 4 and 5) are almost in one transverse line. The abdomen is broader than its length, resembling a crab [1]. The adult female is greyish white, 3-4 mm long, the male is slightly smaller. The legs are adopted for grasping hairs. The most anterior pair of legs is slender, with fine claws and a serrated surface, allowing for traction (and mobility) on even glabrous skin [2]. Posterior sets of legs are increasingly thick for improved grasp of hair

shafts during sleep and attachment of eggs [2]. While firmly grasping host hair shafts, females may lay up to 3 eggs each day. With an incubation period of 7-10 days, eggs may be visible to the naked eye as 0.5 mm, brown-opalescent ovals. Cemented to the hair shaft, chitin egg cases contain areopyles that allow air to directly contact the developing, internal egg. Multiple tactile septae protrude from the head, legs, and dorsum, allowing *Pediculus pubis* to sense its environment. Although the average life span of *Pediculus pubis* may be as long as 1 month, death occurs within 48 hours following removal from the host [3].

Ophthalmologists are concerned with only *Pediculus Pubis*, as this is the variety that is found between the eyelashes. Strangely, *Pediculus capitis* (hair-lice) and *Pediculus corporis* (body-lice), though they breed nearer the eyes do not infest the eyelashes. Each variety keeps to its own region, and the parasites, live upon the blood which they suck from the skin. They grasp the skin, with their jaws and bring their sucking organs into use, at the same time exuding a poisonous salivary secretion. Which sets up pruritus. Occasionally, isolated palpebral involvement has been described [4-6].

Mode of transmission

Three types of flattened wingless lice, which require host hair, attack human beings and causes pediculosis. They are *Pediculus capitis* (head louse) in scalp area, *Pediculus corporis* (body louse) and *Phthirus pubis* in the inguinal area and pubic area.

There is an increase incidence of Pediculosis in developing countries because of the poor sanitary conditions and increase in sexual activity among adolescent people and not infrequently by bedding [7]. In children pediculosis of eye lashes is the most common site, as terminal hair is absent in most part till puberty [8]. Eyelashes also provide moist environment and temperature is apt for the hatching of the eggs. Importantly, although pre-pubertal children with phthiriasis palpebrarum are usually infested by direct contact with a parent or shared fomites, sexual abuse must be thoroughly ruled out.

Clinical Features

The symptoms range from bilateral itching, irritation, visible lice or nites. On examination there could be blepharitis, conjunctival inflammation, lymphadenopathy, infection at the site of lice bite [6]. Blood tinged debris is common in lid margins and eye lashes. Bluish spots of infected lid margins -maculae caruleae may be seen [6]. A case of marginal keratitis is also reported [9]. The translucent oval nits which locate into the bases of the eyelashes and on the cilia are often confused with the crusty excretions of seborrheic blepharitis [6]. Diagnosis can be made by close examination of lashes and lid margins with slit lamp in order to identify the lice and nites.

Treatment

Manual removal of visible lice and eggs with a forceps is standard therapy. Alternatively, eyelashes may be extracted in their entirety [10]. Full removal of eyelashes is followed by complete regrowth in 3-4 weeks. However, such mechanical efforts are quite tedious and may be hindered by low patient tolerance and the firm adherence of eggs to eyelash structures.

Alternative management strategies are legion, but all may have prohibitive adverse effects or present technical difficulties. A time-honored therapy, application of 1 percent yellow mercuric oxide, at a dose frequency of 4 times daily for 14 days, often requires impressive patient compliance for effective treatment [11]. In addition, this treatment may be accompanied by chemical blepharitis, conjunctivitis, lens discoloration, tearing, and photophobia [12]. The agent is also difficult to obtain. Cryotherapy or argon laser phototherapy may allow destruction of ectoparasites but are both associated with discomfort and risk of ocular injury [13,14]. Both safety and efficiency are highly operator dependent. Topical application of gamma-benzene hexachloride may be employed; however previous reports link use to ocular irritation and potential neurotoxic effect [15,16]. „Smothering” lice by twice daily application of plain white petrolatum may be efficacious, but is not ovicidal and thereby risks incomplete therapy [17]. Topical malathion solution 0.5 percent or 1 percent shampoo may be effective after just a few applications, but it is neither approved nor entirely proven safe for ocular use [18,19]. Although oral ivermectin (250mcg/kg; two doses given at one week interval) appears to be an attractive option, there is only scant published evidence of its efficacy, and it is not approved for this indication [20]. Because many cases of ocular phthiriasis occur in children, the relative contraindication for administration to pediatric patients under 15kg body mass adds an additional complication to the use of this agent.

Although the exact mechanism of pilocarpine 4 percent gel remains unclear, previous studies report effective Pediculosis pubis clearance without adverse events following such application [21,22]. Speculation on the mechanism of action includes an anticholinergic induction of louse paralysis via neuronal depolarization or a direct pediculocidal action [21,22]. From a pragmatic standpoint, pilocarpine gel is inexpensive, readily available, and approved for direct ocular use. There was a recent report suggesting the mechanical removal with the help of a white petrolatum ointment (Vaseline) the eyelashes were cleaned with 50% tea tree oil. Nits and lice were successfully eradicated without recurrence 10 days after daily treatment with petrolatum ointment and 10% tea tree oil eyelash cleansing [23]. Patients must launder all bedding, clothing, towels and washcloths, all of which may harbor adult lice and their eggs. Temperatures exceeding 131°F for more than 5 minutes will eradicate all viable eggs, nymphs, and adult lice. Because Pediculosis pubis eggs may incubate for up to 10 days, careful sealing of all potentially contaminated fabric materials in air-tight plastic bags for 2 weeks must coincide with medical attempts at eradication.

Conclusion

As soon as the diagnosis is made in the cases of PP, to prevent extension of disease, prompt treatment and patient isolation should be considered. The patients with the symptom of pruritus of the eyelids and with clinical findings resembling exfoliation on the surface of lid skin and seborrhea accumulation on eyelashes must carefully be examined by slit lamp in order to avoid misdiagnosis. In the cases diagnosed as having lid eczema and seborrheic blepharitis, lice and nits might easily be overlooked and treatment might remain ineffective.

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