

Blepharitis in patients' eyelids: a discussion for nursing care

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Blepharitis is widely described as a disorder of the eyelids. It is an ocular surface disease characterised by inflammation of the eyelashes, redness of the eyelid margins and crusty eyelashes, as well as symptoms that include itchiness and irritation (Batterbury and Murphy, 2018; Vernhardsdottir et al, 2022). Homeostasis of the eyelids are an essential aspect of promoting the health of the eye and, consequently, a person's wellbeing. Blepharitis is also a risk-factor for postoperative ocular infection called endophthalmitis (Low et al, 2023), which is often a consideration for patients who are on waiting lists for elective procedures.

The aim of this article is to inform community nurses about blepharitis and to explain its potential consequences for a person's physical and psychosocial wellbeing.

Anatomy and physiology of the eyelids

Blepharitis affects the anatomy and physiology of the eyelids and its associated structures, such as the eye lashes, eyelids, glands and tear film.

The eyelids have a significant role in eye health. Batterbury and Murphy (2018) and Salmon (2021) have described the landmarks of the eyelids. Firstly, the eyelids are a protective moveable barrier for the eye (globe). Secondly, the eyelids hold an important function of distributing tears to lubricate the anterior aspects of the eye. Thirdly, the eyelids contain a number of glands; their secretions also contribute to the tear film and subsequently, health of the front of the eye.

There are two parts of the eye lid—upper and lower—connected at either end by the medial and lateral canthus, with a natural opening where the two lids meet. This opening is known as the palpebral fissure. Anatomy surrounding the eyelids is referred to as the adnexa.

The skin of the eyelids consists of three layers: epidermis, dermis and subcutaneous. Collectively, these three layers are classified as the thinnest skin in the human body (Lee and Seykora, 2022). There is an absence of subcutaneous fat in the eyelids (Lee and Seykora, 2022) – a unique feature making the skin thin. It is widely acknowledged that as a result, the eyelids are at risk of swelling and haemorrhage if their integrity is compromised by injury, inflammation or infection.

Each layer of the skin has its own individual function (Batterbury and Murphy, 2018; Salmon, 2021; Lee and Seykora, 2022). The outer epidermis layer contains keratinocytes that assist in keeping the skin hydrated and defends the globe from microorganisms and ultraviolet light. The middle layer—the dermis—comprises of collagen, which promote function and elasticity. The inner subcutaneous layer of the eyelid contains connective tissue.

Batterbury and Murphy (2018) have attributed the shape of the eyelids to a layer of connective tissue called tarsal plates. Furthermore, they note that the tarsal plates also contribute to shielding the globe from infection and, as they are lined with conjunctiva, have a role in the integrity of the tear film. The conjunctiva also lines part of the anterior globe; goblet cells contain a mucus to lubricate the ocular surface and are present in the conjunctiva.

Movement of the eyelids is initiated by the oculomotor and facial nerves. Nguyen and Duong (2023) have explained that the oculomotor nerve controls the levator palpebrae superioris muscle which, in turn, elevates the eyelid during the opening of the eye. The upper eyelid closes over the eye using the ocular muscle and facial nerve (Nguyen and Duong, 2023). The upper eyelid has the main responsibility for closing over the eye; however, Batterbury and Murphy (2018) recognised the contribution of the lower eyelid as it retracts its fibres. The levator muscle opens the lids. In addition to closing the eye, the facial nerve also controls blinking, which is a protective reflex that distributes the tear film across the front of the eye, keeping it hydrated and clears any debris and microorganisms (Batterbury and Murphy, 2018; Nguyen and Duong, 2023).

The eyelids contain several different types of sebaceous and sweat glands, which are necessary for eye health. Salmon (2021) has cited the Meibomian glands (20–30 within each eye lid) as having an important role in lubrication; if it becomes blocked, it is predisposed to blepharitis.

Abstract

Blepharitis affects the ocular surface and is characterised by symptoms such as inflammation of the eyelashes, redness of the eyelid margins and itchiness. This article aims to create an awareness of this disease among community nurses by explaining its potential consequences to a person's physical and psychosocial wellbeing. Suggestions are made for its care and intervention.

Keywords: Blepharitis • ocular disease • community nursing • care • interventions

Having discussed the essential features of the eyelid anatomy, the next part of this article will go on to explain how the altered physiology can predispose a person to a condition called blepharitis.

Blepharitis

Blepharitis is broadly defined as an inflammatory condition and commonly referred to as 'multifactorial ocular surface disease'.

The evidence supporting the epidemiology of blepharitis is sparse. The National Institute for Health and Care Excellence (NICE) (2023) report that the American Association of Ophthalmologists (Amescua et al, 2019) hold the most recent epidemiological data on this disease; the data indicates that blepharitis is most prevalent in the over 50-year age group. In the same study, Amescua et al (2019) noted that blepharitis was found (not stratified by age) in 37% of patients at ophthalmologist appointments and 47% of patients at optometrist appointments. People with Down's syndrome are also susceptible to blepharitis due to their known compromised immune system and eyelid structure (Haseeb et al, 2022). Menopause precipitates changes in the physiology of the eye and increases the risk of blepharitis (Birgul and Turan, 2021).

There is a requirement for contemporary data to inform eye health promotion strategies with regards to blepharitis; these are not only crucial for patient comfort and wellbeing but can also reduce cancellations of ocular surgery (such as cataract surgery) and intravitreal injections (for age-related macular degeneration). This is because the excessive microorganism's in the eye lids pose a risk of ocular infection (Murthy, 2017). To this effect, Eom et al (2020) have recommended eyelid hygiene as part of preoperative patient care. However, this is not a routine practiced consistently in the UK.

Types of blepharitis

A number of sources have categorised blepharitis into anterior and posterior, and have warned that many patients can have both (Batterbury and Murphy, 2018; Salmon, 2021; Lee and Seykora, 2022). Blepharitis can be acute or chronic, and can range from a minor to extreme condition (Vernhardsdottir et al, 2022); furthermore, it may result in scarring of the eye lids (Eberhardt and Rammohan, 2023).

Anterior blepharitis affects eye lash follicles and eyelid skin, and posterior blepharitis, the meibomian glands (Batterbury and Murphy, 2018; Salmon, 2021; Lee and Seykora, 2022). Salmon (2021) cites seborrhoea as a common cause of anterior blepharitis, which is common in people with atopic dermatitis. Seborrhoea usually responds to antibiotics. Posterior blepharitis is caused by Meibomian gland dysfunction due to an alteration in meibum secretions. Salmon (2021) has suggested that posterior blepharitis is likely to be a chronic condition and is often associated with acne rosacea.

Blepharitis is further categorised as primary and secondary. Primary blepharitis is linked to *Staphylococcus* and acne-related rosacea; secondary blepharitis is the result of inflammation caused by demodex mites (Salmon, 2021). There is an overlap



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Figure 1: Blepharitis of the lower eyelid

of causes which, according to Vernhardsdottir et al (2022), makes treatment and diagnosis a challenge. The authors further indicate that blepharitis may also be linked to a range of ocular morbidities such as corneal inflammation, conjunctivitis, dry eye and chalazion (stye). Signs and symptoms of blepharitis include significant redness of the lid margins and scales on the lashes, and crusting that causes the lashes to stick together (Batterbury and Murphy, 2018).

Demodex mites, collectively referred to as demodicidosis (Amescua et al, 2019), are cited as one of the most common causes of blepharitis in people over the age of 60 years (80%) and over 70 years (100%); that is, there is an increased likelihood of being affected by the disease as a person ages (Rhee et al, 2023).

Demodex are commonly found on the skin and are normal inhabitants of the human eyelid (Fromstein et al, 2018). That said, Fromstein et al (2018) have suggested that there is a paucity of evidence to make connections between the normal presence of demodex with no signs or symptoms, and those which cause inflammation. Trattler et al (2022) refers to a relationship between the presence of demodex mites and infections of the eyelashes. The mites' excretions form what is known as 'collarettes', which appear in the eye lashes (O'Dell et al, 2022). Trattler (2022) explained that the mites are microscopic and diagnosis requires an eye examination with a slit-lamp microscope. A diagnosis and appropriate treatment regime may only be available from a non-medical prescribing optometrist or hospital eye service. This population of patients may not have access to diagnosis and appropriate treatment (Fromstein et al, 2018). This is relevant to patient care as it highlights implications for eye health and individual wellbeing, given the number of people who may be affected and, consequently, at risk of further complications.

Ophthalmic surgery cancellations have an impact, not only on waiting lists, vision and ocular health (Bheemidi et al, 2023),

Key points

- Blepharitis is a common condition of the eyelid margins
- Common signs include redness of the eyelid margins, crusty eyelashes and discomfort
- Once diagnosed, patients may need support with eyelid hygiene.

CPD reflective questions

- What are the signs and symptoms exhibited by a patient with blepharitis?
- How may a patient feel if they are diagnosed with blepharitis caused by demodex mites?
- How can you explain to a patient about lid hygiene?

but also on the efficiency of healthcare systems. Hosseini et al (2018) suggested a strategy to prevent blepharitis-related cancellations. This involved teaching patients to self-evaluate and report an exacerbation of their blepharitis. However, further research is needed to establish the efficiency of such an approach.

It is also reported that people with blepharitis are reticent to commit to ocular surgery due to their own concerns of postoperative infection (O'Dell et al, 2022). As NHS waiting lists continue to grow, nursing management of blepharitis is a significant aspect of patient care and to avoid cancelled surgery.

A recent NICE (2023) guidance update on blepharitis indicates that there have been no advances in the evidence base regarding treatment. Indeed, the wider literature is unable to provide best evidence for treatment due to lack of consensus. This is particularly noted in the case of demodex mites (Ayres et al, 2023). The cost-of-living crisis may also impact on a person's adherence of recommended treatment due to the cost of over-the-counter purchases.

Nursing care

It is a misconception to view blepharitis as a minor eye condition due to its potential to impact the physical and psychological wellbeing. Blepharitis is a pervasive issue for patients and they need support to understand, seek help, and, if able to, self-manage the condition.

Therefore, individualised patient assessment is imperative to understanding how the condition affects the patient. As eye contact is integral to communication, there is always an opportunity to informally assess a person's eyelids for features of blepharitis, such as redness and crusty eye lashes. Asking the patient questions will enable nurses to also assess pain and discomfort, which may provide an indication of the extent of the disease and expedite referral for medical assessment.

Nursing interventions

Nursing care should begin with finding out what patients know about blepharitis and the trajectory of the disease. Educating the patient, their family and carers will help them understand the implications of blepharitis and promote

adherence to treatment regimes. Patients diagnosed with demodex mites may have specific concerns due to the nature of the diagnosis. There is evidence to suggest that there is a negative psychosocial impact on the quality of life for patients with blepharitis caused by demodex mites (O'Dell, 2022). However, the study does not explore the impact of the initial diagnosis. The presence of demodex mites may be distressing, it needs to be carefully explained to the patient and managed accordingly from the psychological perspective.

Chronic blepharitis is known to impact on a person's wellbeing and quality of life (Fromstein et al, 2018; O'Dell et al, 2022). Patients may also be affected by issues pertaining to their body image, associated with the discomfort of the disease and its crusty, red appearance, and the need to itch. Eye makeup and false lashes used to enhance cosmesis cannot be worn, which could further impact a patient's body image and concerns about appearance. This could also potentially lead to social isolation.

O'Dell's (2022) study offers valuable insight into the impact on daily living activities and, although focused on blepharitis caused by demodex mites, the findings could be transferable to patients who have blepharitis. The participants revealed they experienced anxiety and that the condition had a negative effect on their mental health due to their symptoms always being on their mind. Symptoms affected their driving at night (the crusts can affect vision, as can topical ointments) and they also had concerns about their appearance. A nursing assessment of a patient's activities of daily living will allow nurses to make theory/practice links to the quality-of-life issues cited in O'Dell's (2022) study.

The evidence supporting best practice in managing blepharitis is limited. Eye hospitals and eye units may have their own guidelines for patients to follow. Traditionally, there are three main interventions depending on the individual's symptoms and capability; these are: eyelid hygiene, eyelid massage and topical/systematic antibiotics.

Eyelid hygiene

Cleaning the eyelids are a widely advocated intervention for blepharitis. It can reduce the signs and symptoms of blepharitis and increase comfort around the eyelid area. Eyelid hygiene requires commitment by the patient/carer and some patients may not be able to do this safely; therefore, they may require a nurse to do this for them. The aim of eyelid hygiene is to prevent or reduce the symptoms the patient is experiencing. Moistened cotton buds can be used to disrupt crusts on the eyelids (Batterbury and Murphy, 2018), warm compresses [40°C for 5 minutes and gentle massage can stimulate the meibomian glands (College of Optometrists, 2023)]. Batterbury and Murphy (2018) have suggested that topical artificial tears can promote comfort. Over-the-counter commercial product purchases of eyelid wipes and heated masks may also alleviate the symptoms but should be used according to the advice of an ophthalmic professional.

Antibiotics

Topical antibiotics applied to the lid margin can be effective for blepharitis and, in some cases, oral antibiotics are prescribed (Batterbury and Murphy, 2018; College of Optometrists, 2023; NICE, 2023). Prescribers should be cognisant of antibiotic resistance due to the chronic nature of some types of blepharitis and need for ongoing treatment.

Tea tree oil is recommended for the treatment of demodex mites; however, it has been shown to have limited effect and there is a risk of ocular toxicity, so low concentrations should be used (College of Optometrists, 2023).

Evaluation of patient care can establish the effectiveness of the interventions and the level of pain and discomfort. The psychosocial influence of blepharitis should also be part of the evaluation. Decisions can then be made with the patient about further assessments and referral to the ophthalmic multi-disciplinary team for management, if needed.

Conclusion

Understanding the patient's experience of blepharitis is integral to individualised nursing care. This article has highlighted the anatomical and physiological features associated with blepharitis and the effects on patients' physical, psychological and social wellbeing. The patient experience of this ocular disease presents opportunities for nurses to consider the patient from a holistic perspective and provide the most appropriate individualised nursing care.

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