ORIGINAL ARTICLE

Clinical Presentation, Risk Factors and Outcomes of Demographic Analysis of Blepharitis in Adults Presenting at Multiple Healthcare Centres

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ABSTRACT

Objective: To identify symptoms, risk factors and outcomes of demographic analysis in adult patients with blepharitis.

Study Design: Cross-sectional study.

Place and Duration: The study was conducted in the Department of Ophthalmology at THQ Hospital, Kabirwala from 8th January 2020 to 8th June 2020.

Materials and Methods: 100 patients were included in the study. Aged above 21 with symptoms of Blepharitis. Fluorescein strips and Slit lamp 90 D techniques were used to evaluate the patients for the presence of visual indications of blepharitis.

Results: Sixty-five females and thirty-five males were included in the study. The age group of 21-30 years had the highest number of patients. Dry eyes, poor hygiene, low-socioeconomic factor and seborrhoea dermatitis were significant risk factors. Most common symptoms included irritation, foreign body sensation, swelling over eyelids, hyperaemia, Epiphora and photosensitivity.

Conclusion: Proper guidelines for protection and good hygiene should be provided to people. Dry eyes, poor hygiene, low-socioeconomic factor, seborrhoea dermatitis, irritation, foreign body sensation, swelling over eyelids, hyperaemia, Epiphora and photosensitivity are the most common symptoms and risk factors to find the reason behind Blepharitis, in this study. Females, due to their hormonal changes, are more prone to having this disease.

Key Words: *Blepharitis, Diabetes, Epiphora, Poor Hygiene, Socioeconomic Status, Seborrheic Dermatitis.*

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Introduction

Blepharitis is an eye disorder that leads to inflammation of the eyelid margins. It is an ophthalmologic condition that is mostly chronic, but it can be acute in some cases. It involves both eyes and causes irritation of the lid margins and flaking of the eyelashes.[1] The location of the problem is the leading cause of blepharitis. But in the acute process, it may be ulcerative or non-ulcerative. Bacteria, known as staphylococcal, mostly cause it. It can also be caused by a virus or infection like Herpes Simplex and Varicella Zoster. A patient who suffers from chronic Blepharitis will have seborrheic dermatitis of the scalp and face. As chronic Blepharitis depends on the location of the problem, anterior blepharitis is associated with rosacea, and posterior blepharitis is

associated with Meibomian gland dysfunctioning.[2] These glands over secrete an oily substance that clogs the skin and causes acne. It can affect people of all ages and gender. Individuals older than 50 have more chances of being affected. In 2009, 47% seen by an ophthalmologist of the USA had signs of Blepharitis.[3] The number of patients is increasing day by day, and it is becoming more common in females.[4] The main symptoms of Blepharitis are burning, itching, and crusting of the eyelids. A patient can experience blurry vision, water in the eyes, and foreign body sensations. These symptoms can affect both eyes and become worse day by day. In anterior Blepharitis, erythema and oedema is the most common symptom which can be tested by slit lamp exam.[5] Clinical symptoms of the disease include pain in the eyelids, itchy eyes, you may feel the dust in your eyes, oily crusts or flakes accumulated in the roots of eyelashes, redness of eyelids or eyes and many more. Also, when you wake up, your eyelids may stick together.[6]

Several risk factors can cause blepharitis. These risk factors include Seborrheic dermatitis, Acne rosacea, Contact allergies, Diabetes, Chemical irritants, Poor hygiene, Low socioeconomic status, Cosmetic makeup and advanced age.[7,8] Seborrheic dermatitis, also known as scalp dandruff, has a connection with blepharitis. It can cause the accumulation of oily scales and flakes surrounding your eyelashes that eventually leads to Blepharitis.[9] Acne rosacea is a common disorder of the oil glands of the skin that can lead to redness, dryness and itching of the eyes, causing Blepharitis. The thin layer of eyelids is susceptible; hence, any allergen cannot be tolerated. Whenever the allergens come in contact with the eyelids, they cause rash or irritation, which are apparent symptoms of Blepharitis as well.[10]

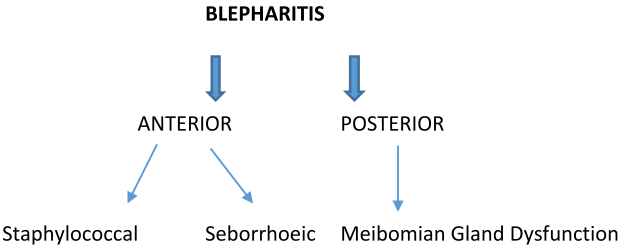
In addition to these risk factors, applying mascara or other beauty products can react with the eyelid skin and cause the disorder. It is observed in some studies that mostly the people of age more than 50 years are prone to the disease. Diabetes, a common disease among our population, is one of the risk factor for blepharitis.[11] Blood pressure lowering medications can also potentially increase the risk of blepharitis. Poor hygiene is one of the significant risk factors for Blepharitis.[12] It is observed that usually the people with low socioeconomic status have poor hygiene and are exposed to chemical irritants and allergens.[13]

Table 1: Features of Blepharitis

Abnormal functioning of the Meibomian glands caused by:
• Bacteria
• Inflammation
• Altered Meibomian land secretions
• Combination of factors
Comorbid conditions:
• Dry eyes
• Acne rosacea
• Seborrheic dermatitis
Anterior Blepharitis:
Often staphylococcus in nature
Posterior Blepharitis:
May be seborrheic, obstructive, or mixed in origin

There are two types of Blepharitis, anterior and posterior which are further classified in Meibomian Blepharitis, Seborrheic blepharitis, Staphylococcal Blepharitis and ulcerative Blepharitis.[14]

Classification of Blepharitis



A comprehensive and physical eye examination can diagnose the disease. Also, slit lamp examination, lid margin imaging and tear film stability are some techniques used to diagnose the disease. No proper treatment has been discovered for the disease yet, so it is preferred to take some preventive measures to prevent the disease from spreading.[15]

The purpose of this study is to identify risk factors for blepharitis in the adult population with an aim to determine the aetiology of disease.

Materials and Methods

A cross-sectional study was carried out on patients having symptoms of blepharitis, at Department of Ophthalmology at THQ Hospital, Kabirwala. Total 100 patients were included in the study. The sample size was calculated with 5% error probability and 95% confidence level. Only adult patients having symptoms of blepharitis and age above 21 years were included. Exclusion criteria were the patients having other eye diseases and the ones who were below 21. Fluorescein strips and Slit lamp 90D techniques were used. A fluorescein strip is soaked

with saline and touched gently on the inner side of the eyelid. For best precision, this test is performed prior using any eye drop. Patient is seen with a cobalt blue channel and diffuse light at a slit lamp 90D to evaluate the presence of visual indications of blepharitis. The eyes were examined clinically. Then, a swab was used to collect the eyelid crust or oil that can be used to study or identify the bacteria or allergy by culture examination. Also, the history of the patients through self- designed questionnaire was taken that specifies their hygiene and socioeconomic status via enquiring about eyelid hygiene awareness and their income, whether owner or rental etc. Seborrheic Dermatitis condition was also enquired in this questionnaire by asking whether they were experiencing dandruff problem along the areas of face, eyelids or scalp etc. Other than these things, the family/genetic disease history like diabetes, hypertention etc, of the patients was also examined that can be a cause of Blepharitis.

Results

One hundred patients were registered for the study, out of which 65 were women and 35 were men with mean age 48 ± 13 years. The highest frequency of the disease was found among patients of age 21-30 years. Seborrheic dermatitis, dry eyes and poor hygiene was observed in most of the patients. Patients with low-socioeconomic status, living in damp places of the city were more likely to have poor hygiene and eventually blepharitis.

Table 2: Risk factors, prevalence and frequency of blepharitis

Risk Factors	Prevalence	Frequency
Seborrheic dermatitis	High	78
Low socioeconomic status	High	69
Poor hygiene	High	73
Acne rosacea	Low	5
Advanced age	Low	26
Contact allergies	Low	9
Diabetes	Low	4
Hypertension	Low	1
Chemical irritants	Low	10
Cosmetic makeup	Low	7
Allergy	Low	13

Discussion

Poor hygiene and low socioeconomic status are found to be the cause of blepharitis other than ageing and related diseases,.[12,13] Seborrheic dermatitis was the most common risk factor found that means scalp dandruff can cause Blepharitis in no time. In this regard, anti-dandruff shampoos are recommended for scalp care.[16]

Bacteria is present usually on the skin, but excess bacteria on the eyelids or eyelashes can cause blepharitis. A biofilm is formed on eye when these bacteria multiply. Exotoxins production is increased, causing dysfunction of oil glands. In such condition, anti-bacterial shampoos are recommended.[17] Taking care of daily hygiene reduces symptoms. Washing hands, and cleaning the eyelids from wet and mild hot c lean washcloth can protect your eyes.[18] Foreign chemical irritants or allergens can invade the eye and cause serious infections, especially in the people working in rural areas or industrial area.[19] Foreign body sensation was observed among the patients. Due to the flakes and crusts, the vision of most of the patients was blurred. Swelling being the most crucial feature found in almost all the patients that also caused difficulty in vision.[20] Meibomianitis, means swelling of oil releasing or sebaceous glands was also commonly found symptom.

Conclusion

Blepharitis is associated with several other diseases and risk factors. But the most common risk factors included poor hygiene, low socioeconomic status, dry eyes and seborrheic dermatitis. To protect people from blephritis, proper guidelines should be provided. Several symptoms including corneal scarring, redness of eye, keratitis, limbitis and chemosis, are associated with blepharitis. But the most common ones are irritation, foreign body sensation, swelling over eyelids, blurred vision, hyperaemia, Epiphora and photosensitivity. Females, due to their hormonal changes, are more prone to having this disease.

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