

Seborrhea: Ocular and Skin Involvement

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Abstract

Objectives: To study the frequency of ocular and skin involvement in patients with seborrheic dermatitis and to relate the severity of ocular involvement with the site of skin involvement.

Materials and Methods: This case control study was conducted at King Hussein Medical Center in the Royal Medical Services during the period between November 2003 and October 2004. Sixty-four patients attending dermatology clinic were diagnosed to have seborrheic dermatitis and referred to ophthalmology clinic. History was taken from each patient including the duration of symptoms and previous treatment. The results were compared with a control group of sixty-four patients not having seborrheic dermatitis. Snellen's visual acuity testing, anterior segment examination via slit lamp, vital staining with fluorescein and rosebengal particularly for punctate keratopathy, and tear film assessment. The distribution of skin lesion was recorded and studied in relation to ocular involvement.

Results: Ocular involvement was evident in 90.6% of patients with seborrheic dermatitis. The most common ocular finding was blepharitis (84.4%). The scalp was involved in 71.9%. The most severe ocular involvement was seen in patients with eyebrow involvement.

Conclusion: It is important to refer any patient with seborrheic dermatitis to ophthalmology clinic since the vast majority of patients had ocular involvement.

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Seborrhea, dermatitis, and ocular involvement.

Introduction

Seborrheic dermatitis, also known as eczematoid seborrhea, or cradle cap in infants, is an acute or subacute skin disease characterized by yellow or brownish gray, often greasy scales, or white dry scaling macules and papules.¹ It is an excess production of oil or sebum by the skin's oil-producing sebaceous glands. When skin inflammation occurs with redness and flaking, it is called seborrhea. It is usually found in areas of the body where sebaceous glands are most abundant (scalp, face and groin).² In the eye, it causes eyelid margin and conjunctiva involvement producing oily and greasy lid crusting, follicular and papillary conjunctivitis, inferior punctate keratitis, and rarely loss of eye lashes. In adults and adolescents, it appears as flaking over patches of itchy, red skin. In infants, it primarily affects the scalp, where it is called cradle cap.³ The body distribution of scaling corresponds to regions where the sebaceous glands are most active, so that the face, scalp, trunk and body folds are typically affected. Dandruff (pityriasis sicca) may be a mild seborrhea.

Seborrheic dermatitis is very common and affects the majority of people at some time during life, most often between the ages of 20 and 50 years or older. Seborrhea is more common in men than women and affects 3 percent of the general population.⁴ It occurs more commonly in older people who are bedridden or have neurological conditions such as Parkinson's disease.⁵ Seborrhea also affects almost 85 percent of people with AIDS.⁶

In this study, we aimed to evaluate the ocular and skin involvement of seborrheic dermatitis and to relate the severity of ocular involvement to the site of skin involvement.

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Materials and Methods

Sixty-four patients attending dermatology clinic in the Royal Medical Services during the period between November 2003 and October 2004 were diagnosed to have seborrheic dermatitis and referred to ophthalmology clinic.

A control group of sixty-four patients attending dermatology clinic after excluding seborrheic dermatitis was also enrolled in the study. History was taken from each patient including the duration of symptoms and previous treatment. Ophthalmologic examination included Snellen's visual acuity testing, anterior segment examination via slit lamp, vital staining with fluorescein and rosebengal particularly for punctate keratopathy, and tear film assessment. Skin lesion and ocular findings were recorded. Severe ocular involvement was considered in patients with schirmer test result of less than 2mm or the presence of superficial punctate keratopathy.

Patients of both groups were randomly selected all over the year without any season preference regardless their age and sex. Data analysis and significance were applied using the p-value.

Results

The mean age of patients was 26.3 years compared to 28.2 years of the control group. Male: female ratio was 1.2:1 in both groups. Ocular involvement was evident in 90.6%. The most common ocular finding was blepharitis, either anterior or posterior or mixed (84.4%). Conjunctivitis was evident in 21.9%, dry eyes (diagnosed on the basis of schirmer test) in 10.9%, and episcleritis in 6.2% of the cases. Superficial punctate staining was noticed in 4.7% of the patients (table 1). In the control group, blepharitis was seen in 53.1%, conjunctivitis in 9.4% and dry eyes in 1.6% of the cases. The most common site of skin involvement was in the scalp (71.9%), followed by cheeks, eyebrows, retroauricular, retrosternal, and groin involvement in 25%, 12.5%, 10.9%, 7.8%, and 4.7% of the patients, respectively (table 2). The most severe ocular involvement was seen in patients with eyebrow involvement.

Table 1: Ocular involvement in patients with seborrheic dermatitis.

Ocular involvement	No. and % of patients	No. and % of control	P-value
Blepharitis	54 (84.4)	34 (53.1)	P<0.001
Conjunctivitis	14 (21.9)	6 (9.4)	0.05<P<0.1
Dry eyes	7 (10.9)	1 (1.6)	0.02<P<0.05
Episcleritis	4 (6.2)	0 (0)	0.02<P<0.05
SPS*	3 (4.7)	0 (0)	0.05<P<0.1

* *Superficial punctate staining.*

Table 2: Sites of skin involvement.

Site	Number of patients	Percentage of patients %
Scalp	46	71.9
Cheek	32	25
Eye brows	16	12.5
Retroauricular	7	10.9
Retrosternal	5	7.8
Groin	3	4.7

Discussion

Seborrheic dermatitis is usually found in areas of the body where sebaceous glands are most abundant so that the face, scalp, trunk and body folds are typically affected. Symptoms may include itching, redness and inflammation. Ocular involvement results from the involvement of meibomian glands at the lid margin resulting in anterior and posterior blepharitis. It has been postulated that the excessive amount of neutral lipids in patients with seborrhea are broken down by *Corynebacterium acnes* into bacterial lipase and irritating fatty acids⁷. Meibomian gland dysfunction is mainly associated with posterior blepharitis. This may lead to stye formation, tear film instability, papillary conjunctivitis and inferior punctate epitheliopathy.⁸

Dry eyes manifest in irritation, foreign body sensation, mucus discharge and itching. Tear film abnormalities cause an increase in mucus strands and debris as an early sign. Normally, mucin layer washes away after contamination with lipid layer, while in dry eyes, the lipid-contaminated mucin accumulates in the tear film.⁹

The marginal tear meniscus is concave, small and may be absent (normally it is convex and 1 mm high). Investigations for dry eyes include tear film break-up time, rosebengal dye testing, and schirmer test.¹⁰ A break-up time of less than 10 seconds is abnormal¹¹. Corneal abnormalities include inferior punctate epitheliopathy, filamentary keratitis, and mucus plaques.¹²

Scalp was the commonest site of involvement in our study (71.9%). Other sites of skin involvement included cheek, eyebrow, retroauricular, retrosternal, and groin. Blepharitis was evident in 84.4% in our study, conjunctivitis in 21.9%, and dry eyes in 10.9% compared to 53.1%, 9.4%, and 1.6% in the control group, respectively. Blepharitis was significantly associated with seborrheic dermatitis at P value<0.001 as well as dry eyes and episcleritis at P value<0.05. On the other hand, conjunctivitis and superficial punctate keratopathy were not significantly associated with seborrhea (0.05<P<0.1) although they were more prevalent in such patients.

Our review to literature did not find any study evaluating the prevalence of different ocular pathologies in seborrhea, neither we could find any association with episcleritis; however, four patients in our study were found to have episcleritis.

The most severe ocular involvement was superficial punctate staining seen in three patients with eyebrow involvement. 18.8% of patients with brow involvement had punctate epitheliopathy. Other ocular manifestations were not related to the site of skin involvement. From these results, it is important to refer any patient with seborrheic dermatitis to ophthalmology clinic particularly if the eyebrow is involved to anticipate and manage any ocular involvement.

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