



OCULAR MANIFESTATIONS IN PSORIASIS PATIENTS: A HOSPITAL BASED OBSERVATIONAL STUDY.

Ophthalmology

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ABSTRACT

Objectives: This study was to evaluate the PASI score, severity, medication and prevalence of ocular manifestations in various age group of psoriasis patients. **Methods:** All the patients were evaluated for duration of disease, site of lesion, type of psoriasis, extent of skin involvement by using the Psoriasis Area and Severity Index (PASI). Dry eye evaluation was done using Schirmer's-1 test and Tear break up time (TBUT). Diagnosis of dry eye disorder was made based on DEWS classification. Cataracts grading was done according to the LOCS 111 score. Ocular evaluation was performed with head posture, ocular position, extra ocular movements, best corrected visual acuity, anterior segment examination using slit lamp, applanation tonometry for measuring IOP, lacrimal sac syringing and detailed fundus examination. **Results:** Data was analysed by using SPSS version 26 software. All data was tabulated and percentage were calculated. Mean and standard deviations were observed. **Conclusions:** Psoriasis was very common in elder age group male population. Prevalence of ocular manifestations was higher in psoriasis patient who had higher PASI score. Blepharitis, Cataract/pseudophakia and dry eye were the very common ocular manifestation. Hence, the psoriasis patients must undergo periodic eye examinations and prompt referral to an ophthalmologist in cases of persistent eye pain, risk of corneal damage or decreased visual acuity. An ophthalmologist must be vigilant to diagnose ocular manifestation early, in order to manage unnecessary discomfort, minimize eye damage and prevent potential permanent loss of vision in psoriasis patients.

KEYWORDS

Psoriasis, ocular manifestations, PASI score, age group, gender

INTRODUCTION

Psoriasis is a chronic inflammatory skin disease in which environmental and genetic risk factors cause immunocellular dysfunction and inflammation [1]. It is a systemic condition that affects 1%-3% of the world's population and has a profound impact on quality of life [2]. Estimated global prevalence is ranging from 0.5% to 4.6%. Estimated prevalence in India is 0.7% [3,4].

The most characteristic lesions consist of red, scaly, sharply demarcated, indurated plaques, present particularly over extensor surfaces and scalp [5]. The ocular manifestations of psoriasis are subtle, they can be overlooked without a dedicated examination or review of ocular system. So, if ophthalmic examinations could be carried out at regular intervals, and patients with psoriasis would be benefited. Commonest ocular manifestations are dry eyes and blepharitis. Others include pinguecula, pterygium, punctate keratitis, cataract, uveitis, glaucoma and retinal microvascular abnormalities [5]. Objectives of our study was to evaluate the ocular manifestation in various age group of psoriasis patients.

MATERIALS & METHODS

This present study was conducted in Department of Ophthalmology, SKMCH, Muzaffarpur, Bihar, with collaboration of the Department of Ophthalmology, PMCH, Patna, Bihar, India during a period from January 2019 to November 2019.

Entire subjects signed an informed consent approved by institutional ethical committee of SKMCH, Muzaffarpur, and PMCH, Patna, Bihar, India was sought. Data was collected with irrespective of age and sex.

A total 50 patients of psoriasis who were diagnosed by a single investigator on clinical grounds and started on medications and were referred to the department of ophthalmology for evaluation. Patients more than 18 years of age diagnosed with psoriasis (by dermatologist) attending the dermatology and ophthalmology outpatient department

were included. Patients with diabetes mellitus, renal disease, sarcoidosis, systemic lupus erythematosus, Behcet's disease, tumors, infection, ocular trauma or allergy, abnormal eyelid movement, or a history of ocular surgery; use of contact lenses; or if they were receiving treatment with retinoids, psoralen and ultraviolet A radiation (PUVA), or narrow-band ultraviolet B (UVB) radiation were excluded from the study.

A detail assessment like age, sex, address and occupation details of the patients were performed to all patients. They were evaluated for duration of disease, site of lesion, type of psoriasis, extent of skin involvement using the Psoriasis Area and Severity Index (PASI), with scores equal to or greater than 10 considered to indicate moderate or severe disease and detailed history of treatment received currently or during the previous 5 years were documented.

Dry eye evaluation was done using Schirmer's-1 test and Tear break up time (TBUT). The Schirmer's test less than 10 mm and TBUT below 10 sec were considered abnormal. Diagnosis of dry eye disorder was made based on DEWS classification. Specific ocular complaints and their duration were noted using questionnaire. Cataracts grading was done according to the LOCS 111 score.

Ocular evaluation was performed with head posture, ocular position, extra ocular movements, best corrected visual acuity, anterior segment examination using slit lamp, applanation tonometry for measuring IOP, lacrimal sac syringing and detailed fundus examination.

OBSERVATIONS

A total of 50 psoriasis patients with age group 15 to > 60 years were enrolled in this study. Most of the patients 26(52%) were in age group of 46 to 60 years. Mean age of patients was 45.91 ± 12.36 years. Among 50 patients, 30(60%) were males and 20(40%) were females. Male and female ratio was 3:2. Mean duration of psoriasis of patients was 5.7 ± 3.1 years.

Table.1. Showing age distribution of cataract in psoriasis patients.

Age group (Years)	No. of patients	Percentage of patients
15-30	4	8%
31-45	8	24%
46-60	26	52%
>60	12	24%
Total	50	100%

Table.2. Showing the type of psoriasis and associated ocular manifestations.

Type of psoriasis	No. of patients	Percentage of patients
Plaque	36	72%
Guttate	7	14%
Erythrodermic	2	4%
Pustular	1	2%
Psoriatic arthritis	4	8%
Total	50	100%

n this present study, ocular manifestation in psoriasis patients had 36(72%) plaque formation, 7(14%) guttate, erythrodermic 2(4%), pustular 1(2%) and psoriatic arthritis 4(8%).

Table.3. Comparison in severity of psoriasis with ocular manifestations

PASI score	No. of patients	Ocular manifestation present	Ocular manifestation absent
<5	4(8%)	3(75%)	1(25%)
5-10	30(60%)	22(73.33%)	8(26.67%)
>10	16(32%)	12(75%)	4(25%)
Total	50(100%)	37(74%)	13(26%)

On the basis of PASI score, 4(8%) psoriasis patients had less than 5 PASI score. Among them, 3(75%) had presented ocular manifestation. 30(60%) psoriasis patients had 5-10 PASI score. Among them, 22(73.33%) had presented ocular manifestation. Similarly, 16(8%) psoriasis patients had >10 PASI score. Among them, 12(75%) had presented ocular manifestation.

Table.5. Comparison of PASI score with number of dry eyes.

PASI Score	No. of psoriasis patients	No. of psoriasis patients with dry eye
<5	4(8%)	1(25%)
5-10	30(60%)	5(16.67%)
>10	16(32%)	3(18.75%)
Total	50(100%)	9(18%)

In this present study, 1(25%) patients had dry eye in out of 4(8%) psoriasis patients of PASI score <5. (16.67%) patients had dry eye in out of 30(60%) psoriasis patients of PASI score of 5-10. And 3(18.75%) patients had dry eye in out of 16(32%) psoriasis patients of PASI score >10..

Table.4. Ocular manifestations in psoriasis patients

Ocular manifestations	No. of patients (N=37)	Percentage of patients
Blepharitis	12	32.43%
Cataract/pseudophakia	10	27.03%
Dry eyes	9	24.32%
Chronic conjunctivitis	3	8.11%
Uveitis	2	5.40%
Chalazion	1	2.70%
Total	37	100%

In this present study, out of 50 patients of psoriasis, ocular manifestation was seen in 37(74%) patients. Among 37 cataract patients of ocular manifestation, patients had 12(32.43%) blepharitis, 10(27.03%) cataract/pseudophakia, 9(24.32%) dry eyes, 3(8.11%) chronic conjunctivitis, 2(5.40%) uveitis and chalazion 1(2.70%).

Table.6. Management of cataract in psoriasis patients.

Type of treatment	No. of psoriasis patients	No. of psoriasis patients with ocular manifestations
Methotrexate	30(60%)	23(76.67%)
Topical steroids	8(16%)	6(75%)
PUVA	5(10%)	4(80%)
Topical tar	3(6%)	2(66.67%)

Acitretin	4(8%)	2(50%)
Total	50(100%)	37(74%)

In this present study, methotrexate was used for the treatment of 30(60%) of psoriasis patients. Among them, ocular manifestation was seen in 23(76.67%) patients. Topical steroids was used for 8(16%) psoriasis patients, among them 6(75%) had ocular manifestations. PUVA was used for 5(10%) psoriasis patients, among them 4(80%) patients had ocular manifestations. Topical tar was used for the treatment of 3(6%) psoriasis patients, among them 2(66.67%) had ocular manifestations. Acitretin was used for the treatment 4(8%) psoriasis patients, among them 2(50%) had ocular manifestations.

DISCUSSIONS

Psoriasis is a common, chronic, inflammatory, systemic disease with major manifestations in the skin. Skin can present with persistent scaly plaques, flaking, itch, pain, and more rarely, widespread erythroderma and pustules. There is a significant impact of disease severity on patient-reported psychosocial and physical quality of life, including loss of work productivity [6].

In this present study. 50 patients of psoriasis were enrolled. Among them 37 patients had ocular manifestation. Prevalence of ocular manifestation in psoriasis patients was 74%. Where, as mean age of patients was 45.91 ± 12.36 years. Most of the patients was males. Male and female ratio was 3:2.

Wanscher, et al, [7] in their study of 266 patients with mean age of 24.7 years, found that the incidence of cataract among psoriasis patients does not exceed the normal population; hence concluded saying routine eye examinations for cataract are not necessary for such Patients.

In this present study, majorities of psoriasis patients had 36(72%) plaque formation. And 7(14%) patients had guttate and psoriatic arthritis 4(8%).

In a Study done by Erbagci et al, [8] in Turkey on ocular manifestations in psoriasis, in their study, total of 67.74% of psoriasis had ocular manifestations. Blepharitis is the most prevalent ocular finding in psoriasis as found by Cram et al [9]. Edema, Erythema and plaques may develop leading to cicatricial ectropion, trichiasis, madarosis and even loss of lid tissue. Erbagci et al, [8] demonstrated that early ocular involvement mainly chronic blepharitis occurs in 65% of patients with psoriasis vulgaris. Dry eyes – It is said to be second only to blepharitis in incidence. Her et al, [10] who evaluated dry eye symptoms, ocular surface changes and tear film function in patients with psoriasis, stated that the dry eye symptom was more common in patients with Psoriasis. Psoriasis can be classified by its association with human leukocyte antigen (HLA). Patients who have a strong HLA association typically have a family history and present with disease before 40 years of age. If they carry two copies of HLA-Cw6, they may develop a more severe and recalcitrant form of the disease [11]. Therefore, if an early onset of psoriasis is associated with greater disease severity because of the relationship to HLA, ocular manifestations like keratitis and blepharitis could appear more frequently in this group. Using the PASI, which also measures severity, keratitis was shown to have a strong association with moderate/ severe psoriasis, whereas blepharitis had a stronger association with mild psoriasis. As reported by Erbagci et al [8].

In this present study, 4(8%) psoriasis patients had less than 5 PASI score. Among them, 3(75%) had presented ocular manifestation. 30(60%) psoriasis patients had 5-10 PASI score. Among them, 22(73.33%) had presented ocular manifestation. Similarly, 16(8%) psoriasis patients had >10 PASI score. Among them, 12(75%) had presented ocular manifestation. Dry eye was seen in most of the patients 3(18.75%), who had PASI score > 10. 5(16.67%) patients had dry eye, who had PASI score 5-10. ocular manifestations were more common in patients with PASI score >10 when compared to patients with PASI score <10. And prevalence of dry eye was higher among the patients with higher PASI score (>10).

A Study conducted on 100 Patients by Kilic et al, [12] noted incidences of ocular findings in both eyes in the patient group to be statistically higher than that in the control group. Lambert et al3 in a study of patients with psoriatic arthritis, noted ocular inflammation in 30%. Most common lesion was conjunctivitis, being found in 19.6%.

Corneal manifestations – occurs secondary to lid or conjunctival complications, such as dryness and trichiasis. Uveitis – seen mostly in patients with psoriatic arthritis. Zeboulon et al, [13] in a systematic review of 29,877 patients for prevalence and characteristics of uveitis in spondyloarthropathies (SpA), identified that mean prevalence of uveitis in SpA was 32.7%. This prevalence increased with mean disease duration and was higher in HLA B-27 positive patients with an odds ratio of 4.2.

In our present study, we were found that the majorities of patients had 12(32.43%) blepharitis. And 10(27.03%) patients had cataract/pseudophakia, 9(24.32%) dry eyes, 3(8.11%) chronic conjunctivitis, 2(5.40%) uveitis and chalazion 1(2.70%).

Blepharitis, possibly the most common ocular complication of psoriasis [14], presents with inflammation, itch and burning of the eyelid margin and a red, swollen eyelid. It is thought to be triggered by Meibomian duct occlusion by psoriatic scale, as well as an underlying lower tear film break-up time in patients with psoriasis [15]. Chronic blepharitis and secondary rubbing and swelling can lead to loss of lid tissue, ectropion, trichiasis, madarosis and even visual disturbances [16].

In this present study, methotrexate was used as a common drug in majorities of psoriasis patients 30(60%). Among them, ocular manifestation was seen in 23(76.67%) patients. Topical steroid was used for 8(16%) psoriasis patients, among them 6(75%) had ocular manifestations. PUVA was used for 5(10%) psoriasis patients, among them 4(80%) patients had ocular manifestations.

Cox et al, [17] studied the effects of PUVA therapy on 59 patients. They found three patients developed new lens opacities after 3 months of commencing PUVA therapy. However, none of these patients was considered to have cataract, as none had impairment of visual acuity. 18-20 Acetazolamide- Kuroda et al [21] in their case report of a 28 years male with history of 20 years of generalized pustular psoriasis developed psoriatic arthritis and glaucoma.

Studies in literature have mentioned PUVA (psoralen and ultraviolet A radiation) therapy and steroids to be responsible for higher incidence of cataracts in these patients. However, none of the studies suggested any direct correlation between the disease process and its therapy and development of cataract [18,8].

CONCLUSIONS

This present study concluded that the psoriasis was very common in elder age group male population. Prevalence of ocular manifestations was higher in psoriasis patient who had higher PASI score. Blepharitis, Cataract/pseudophakia and dry eye were the very common ocular manifestation. Methotrexate was used as a common drug for the treatment of psoriasis patients. Hence, the psoriasis patients must undergo periodic eye examinations and prompt referral to an ophthalmologist in cases of persistent eye pain, risk of corneal damage or decreased visual acuity. An ophthalmologist must be vigilant to diagnose ocular manifestation early, in order to manage unnecessary discomfort, minimize eye damage and prevent potential permanent loss of vision in psoriasis patients.

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