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Ocular Manifestations In Psoriasis

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Abstract:
Background*: Psoriasis is a chronic immune-mediated inflammatory skin condition affecting millions worldwide.[1] While cutaneous manifestations are prominent, associated ocular disease can involve nearly any structure of the eye and may initially go undetected, leading to significant ocular morbidity.*
Aims/Objectives: *To determine the frequency of ocular manifestations in patients with psoriasis and to characterize the clinical features. We also aimed to evaluate potential associations between ocular findings and patient characteristics, including age, sex, duration of disease, type of psoriasis, severity (PASI score), and treatment history.*
Materials and Methods: *In this prospective observational study, a comprehensive ophthalmic examination was performed on 80 patients (aged 18 years or older) with a confirmed diagnosis of psoriasis, recruited from Narayana Medical College Hospital, Nellore, between November 2023 and May 2025.*
Results: *Ocular manifestations were observed in 58 patients (72.5%). The most common findings were cataract/pseudophakia (37.5%), dry eye syndrome (27.5%), blepharitis (23.75%), and chronic conjunctivitis (8.75%). Uveitis occurred in 2.5% of cases. A Psoriasis Area and Severity Index (PASI) score greater than 10 was significantly associated with a higher presence of ocular manifestations (p = 0.009) compared to those with lower scores.*
Conclusion: *There is a high prevalence of ocular manifestations in psoriasis patients. Routine ophthalmic screening is recommended for all psoriasis patients to prevent ocular morbidity.*
Key Word: *Psoriasis; Ocular Manifestations; Dry Eye; Blepharitis; PASI Score; Cataract.*

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I. Introduction

Psoriasis is a chronic, systemic inflammatory disease driven by immune dysregulation, extending its impact beyond the skin to involve multiple organs, notably the eyes.[2] Recognising these ocular manifestations is critical for comprehensive patient management, as they can severely affect vision and quality of life.The systemic inflammatory environment in psoriasis, fueled by shared cytokines, links the skin condition to various eye problems.[3] Ocular involvement is common, ranging from mild conditions like blepharitis and dry eye syndrome often correlating with a higher PASI score to severe, sight-threatening issues like uveitis.[4] This paper aims to review the spectrum and prevalence of ophthalmic manifestations in psoriasis patients, analyse risk factors, and stress the crucial need for proactive ophthalmic screening to ensure early detection and management, thereby preventing permanent visual impairment.

II. Material And Methods

The present study was conducted in the Department of Ophthalmology, Narayana Medical College and Hospital, Nellore.

Study Design: Prospective observational study

Study Location: Department of Ophthalmology, at Narayana Medical College and Hospital, Nellore, AP, India.

Study Duration: November 2023 to May 2025.

Sample size: 80 patients.

Selection criteria:
Inclusion criteria:
- Patients with diagnosed psoriasis (plaque, guttate, erythrodermic, pustular or psoriatic arthritis), age≥ 18 years, either sex.

Exclusion criteria:
- Patients with diabetes mellitus or hypertension (to rule out retinopathy from other causes).
- Patients with other pre-existing ocular diseases such as glaucoma or corneal dystrophies.
- Patients on medications known to cause ocular toxicity (other than anti-psoriatic drugs being studied).

Procedure methodology

A detailed history was taken, including the duration of psoriasis, type of psoriasis, and treatment history (methotrexate, topical steroids, PUVA, acitretin). Disease severity was assessed using the Psoriasis Area and Severity Index (PASI).

All patients underwent a comprehensive ocular examination including:
- **Visual Acuity:** Best Corrected Visual Acuity (BCVA) using Snellen's chart.
- **Anterior Segment Examination:** Slit-lamp biomicroscopy to evaluate eyelids (blepharitis), conjunctiva, cornea, and lens.
- **Dry Eye Evaluation:**
- **Schirmer's Test I:** Values < 10 mm in 5 minutes were considered abnormal.
- **Tear Break-Up Time (TBUT):** Values < 10 seconds indicated tear film instability.
- **Intraocular Pressure (IOP):** Measured using Goldmann Applanation Tonometry.
- **Posterior Segment:** Fundus examination using a 90D lens.

Statistical analysis

Data were analyzed using appropriate statistical software. Chi-square tests were used to test for differences in proportions of categorical variables (e.g., presence of manifestations vs. PASI score). A P-value < 0.05 was considered statistically significant.

III. Result

A total of 80 patients were evaluated. Ocular manifestations were observed in 58 patients, resulting in a prevalence of 72.5%.

Demographic Distribution: The study population consisted of 55 males (68.75%) and 25 females (31.25%). The most common age group affected was 41-60 years.
Ocular Findings: The most frequent ocular finding was cataract or pseudophakia, seen in 30 patients (37.5%). Dry eye syndrome was the second most common manifestation, present in 22 patients (27.5%), followed by blepharitis in 19 patients (23.75%) and chronic conjunctivitis in 7 patients (8.75%). Uveitis was rare, observed in only 2 patients (2.5%).
Correlation with Disease Severity (PASI): Patients were categorized by PASI scores. Those with a PASI score > 10 had a significantly higher incidence of ocular manifestations compared to those with a score < 10 ($p = 0.009$).

Table no 1: Age distribution of studied patients with and without ocular manifestations

Age group (years)	With ocular manifestations	Without ocular manifestations	Total
0-20	1	1	2
21-40	12	8	20
41-60	30	12	42
61-80	15	1	16
>80	0	0	0

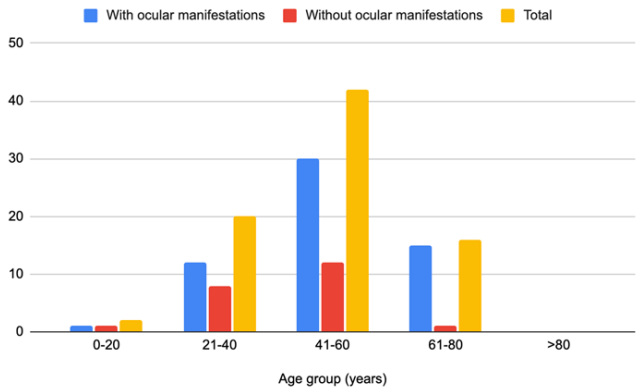


Table no 2: Prevalence of specific ocular manifestations in study population (N=80).

Ocular Manifestation	Number of patients	Percentage (%)
Cataract/Pseudophakia	30	37.5
Dry eyes	22	27.5
Blepharitis	19	23.75
Chronic conjunctivitis	7	8.75
Uveitis	2	2.5

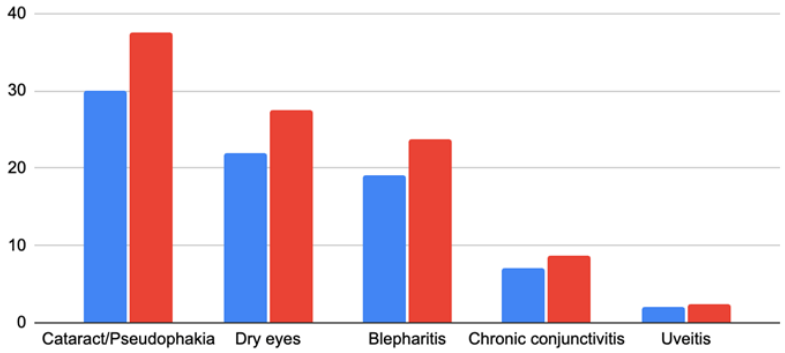
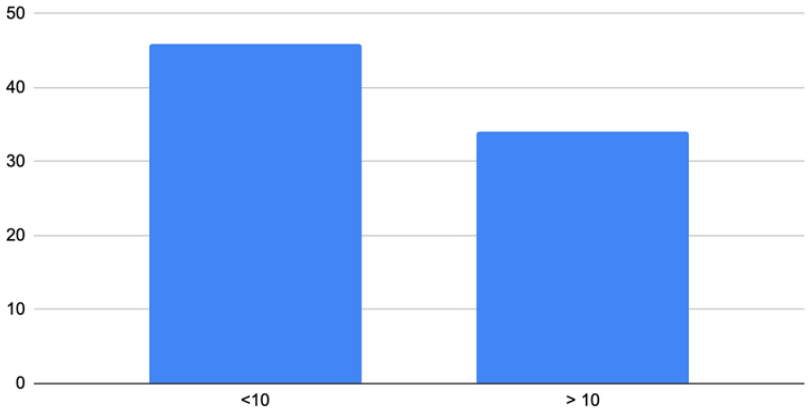


Table no 3: Association between PASI Score and Ocular Manifestations.

PASI score	Total patients	Manifestations present	P value
<10	46	28 (60.8%)	
> 10	34	30 (88.2%)	0.009



IV. Discussion

Dyslipidemia and systemic inflammation in psoriasis play an important role in the development of comorbidities.[5] In our study, the prevalence of ocular manifestations was 72.5%. This is consistent with literature reporting a prevalence range of 10% to 90% depending on the study population and diagnostic criteria.[6]

Dry Eye and Ocular Surface Disease: We found dry eye syndrome in 27.5% of patients. This supports findings by Zengin et al., who reported lower Schirmer and TBUT values in psoriasis patients.[7] The pathogenesis likely involves meibomian gland dysfunction and ocular surface inflammation.[8] Blepharitis was seen in 23.75% of our cohort, which often complicates tear film stability.

Cataract: Cataract or pseudophakia was noted in 37.5% of patients. While age is a confounding factor, chronic inflammation and the use of corticosteroids or PUVA therapy are known risk factors for cataract development in this population.[9]

Uveitis: Uveitis was observed in only 2.5% of cases. Although the prevalence is low, uveitis is a sight-threatening complication strongly linked to psoriatic arthritis and HLA-B27 positivity.[10]

PASI Score Correlation: Our study confirmed a statistically significant association ($p=0.009$) between severe skin disease (PASI > 10) and ocular findings. This suggests that aggressive management of skin disease may help reduce the burden of ocular comorbidities.

V. Conclusion

Ocular manifestations are common in patients with psoriasis, affecting nearly three-quarters of the study population. The most common conditions are cataract, dry eye, and blepharitis. Disease severity (high PASI score) is a strong predictor of ocular involvement. Routine ophthalmological screening is essential for early detection and management to prevent visual impairment in patients with psoriasis.

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