VOLUME - 14, ISSUE - 05, MAY - 2025 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Opthalmology

PATTERNS OF OCULAR MANIFESTATIONS IN SKIN DISEASES: AN OBSERVATIONAL STUDY

Dr Utkarsha Jain* Resident, Mahatma Gandhi Memorial Medical College, Indore, Madhya Pradesh, India. *Corresponding Author

Dr (Prof) Preeti Rawat Professor and Head of Department , Mahatma Gandhi Memorial Medical College, Indore, Madhya Pradesh, India.

ABSTRACT Dermatological disorders can lead to various ocular manifestations, from mild to severe, potentially causing ocular damage and even vision loss. Long-term medications for skin conditions, such as steroids, hydroxychloroquine, retinoic acid, and immunosuppressive agents, can exacerbate these effects. This observational study aimed to investigate ocular manifestations linked to various dermatological disorders at the tertiary care center, in Indore, India. Over one year, the study included 50 patients and involved thorough ocular examinations. Data on age, sex, type of skin disease, medical history, and current medications were collected. The highest incidence of ocular manifestations (22%) was in patients aged 30-39 years, with 74% male cases and 64% from a lower middle-class background. Common dermatological conditions observed were herpes (18%), tinea (10%), and allergic contact dermatitis (10%). Frequent ocular issues included lid lesions (22%) and conjunctival congestion with papillae (20%). Significant correlations were found between specific dermatological disorders and ophthalmic manifestations, such as cataracts in patients with Hansen's disease and lichen planus. This study highlights the importance of recognizing the significant impact of dermatological diseases on ocular health, particularly in patients with chronic skin conditions and long-term medication use, underscoring the need for comprehensive ocular evaluations to ensure early diagnosis and effective treatment.

KEYWORDS : Eye conditions, skin disorders, chronic skin conditions, medication side effects, skin eye connection

INTRODUCTION

Skin conditions can profoundly impact our eyes and vision. These dermatological disorders can exhibit a wide range of ocular symptoms, affecting various parts of the eye—from the delicate eyelids to the intricate cornea and retina. Recognizing the close connection between dermatology and ophthalmology is crucial, as many skin diseases can result in serious eye-related complications that can lead to vision impairment or even complete vision loss [1].

The range of ocular symptoms associated with dermatological diseases is truly remarkable. Psoriasis, for instance, can cause inflammation of the eyelids (blepharitis), conjunctivitis, and in severe cases, inflammation of the uvea (uveitis) [2]. Atopic dermatitis, on the other hand, can lead to changes in the conjunctiva and cause eyelid dermatitis, while the chronic skin condition rosacea can trigger ocular rosacea, which includes inflammation of the eyelids and conjunctiva [3].

The very medications used to treat dermatological conditions can also have adverse effects on the eyes. Prolonged use of corticosteroids, a common treatment for various skin disorders, can result in the development of cataracts and glaucoma. Immuno-suppressants, frequently prescribed for conditions like lupus and rheumatoid arthritis, have been linked to retinal toxicity, potentially leading to irreversible vision loss if not properly monitored [4]. Even retinoic acid, used for treating acne and other skin conditions, can cause dryness and irritation of the eyes.

Additionally, the immunosuppressive agents necessary for managing autoimmune dermatological disorders can increase the risk of ocular infections and other complications due to their suppressive effects on the immune system [5].

This study aims to assess the frequency and nature of ocular involvement in patients with dermatological disorders while considering the role of systemic medications and other confounding factors.

MATERIALS AND METHODS

This observational study was carried out over 5 months at the Department of Ophthalmology, at the tertiary care center, Indore, in collaboration with the Department of Dermatology. It involved 50 patients diagnosed with various dermatological conditions that presented with ocular manifestations. Patients included in the study were those with dermatological conditions who presented ocular complaints and provided informed consent.

Patients unable to sit for an ocular examination or with a history of ocular trauma or surgery were excluded. The study received ethical approval, and informed consent was obtained from all participants.

Data collection encompassed patient demographics, clinical examination findings, and medical history. Comprehensive ocular examinations included visual acuity, intraocular pressure measurement via applanation tonometry, slit lamp examination, refraction, retinoscopy, fundus examination, keratometry, corneal staining, Schirmer's test, and perimetry.

The study aimed to correlate specific dermatological disorders with their associated ophthalmic manifestations, employing statistical analysis to identify significant correlations and frequencies of these ocular conditions. This research aimed to improve understanding of the ocular complications linked to dermatological disorders, emphasizing the need for comprehensive care in these patients.

Data collection included patient demographics, medical history, medication use, and dermatological and ophthalmological diagnoses. Statistical analyses, including chi-square tests and correlation coefficients, were used to determine significant associations.

RESULTS

Table 1: Age Distribution Of Patients

Age Group (Years)	Frequency	Percentage
0-10	5	10%
11-19	1	2%
20-29	10	20%
30-39	11	22%
40-49	6	12%
50-59	6	12%
>60	6	12%

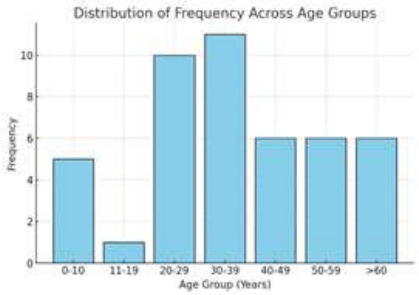


Table 2: Sex Distribution Of Patients

Sex	Frequency	Percentage
Male	37	74%
Female	13	26%

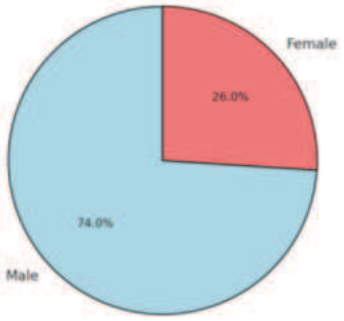


Table 3: Distribution Of Skin Diseases

Skin Disease	Frequency	Percentage
Seborrheic Dermatitis	1	2%
Erythroderma Vascularise	2	4%
SJS/TEN	1	2%
Hansen's Disease	4	8%
Xeroderma Pigmentosum	2	4%
Tinea	5	10%
Drug-Induced SLE	2	4%
Lichen Planus	3	6%
Discoid Lupus Erythematosus	3	6%
Herpes	9	18%
Pityriasis	1	2%
Scabies	1	2%
Pemphigus	1	2%
Periorbital Hypermelanosis	3	6%
SLE	3	6%
Allergic Contact Dermatitis	5	10%
Milia	2	4%
Dermatitis Herpetiformis	1	2%
Atopic Dermatitis	1	2%

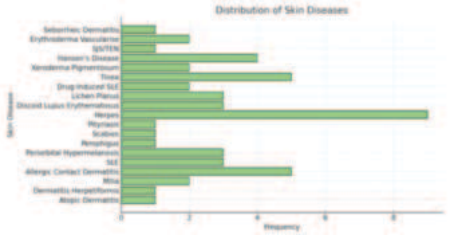


Table 4: Distribution Of Ophthalmological Manifestations

Ophthalmological Manifestation	Frequency	Percentage
Tylosis and Madarosis	1	2%
Lid Excoriation	7	14%
SIMC	10	20%
Symblepherone	1	2%
Conjunctival Congestion with Papillae	10	20%
Pseudophakia	2	4%
Lid Swelling	2	4%
Chorioretinal Patch	3	6%
Decreased Corneal Sensation	1	2%
Eye Discharge	1	2%
Lid Lesions	11	22%
Corneal Opacity	2	4%

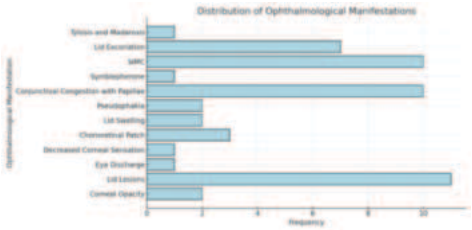
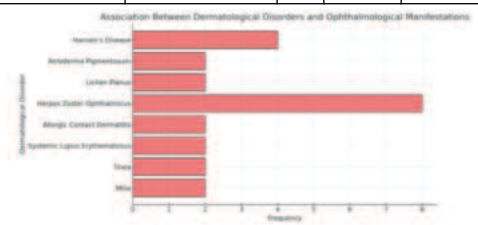


Table 5: Significant Correlations Between Dermatological Disorders and Ophthalmic Manifestations

Dermatological Disorder	Ophthalmological Manifestation	Frequency	Coefficient of Correlation	Significance
Hansen's Disease	SIMC	4	0.001	Significant
Xeroderma Pigmentosum	Symblepheron e	2	0.002	Significant
Lichen Planus	SIMC	2	0.002	Significant
Herpes Zoster ophthalmicus	Lid Vesicles	8	0.001	Significant
Allergic Contact Dermatitis	Lid Swelling	2	0.002	Significant
Systemic Lupus Erythematosus	Lid Swelling	2	0.002	Significant
Allergic Contact Dermatitis	Conjunctival Congestion	2	0.002	Significant
Tinea	SIMC	2	0.002	Significant
Milia	Lid Excoriation	2	0.002	Significant



DISCUSSION

This study provides insights into the significant correlations between dermatological disorders and ocular manifestations. The highest incidence of ocular complications was noted in middle-aged males, with herpes, tinea, and allergic contact dermatitis being the most prevalent conditions. The study also underscores the importance of considering confounding factors such as systemic steroid use in cataract formation.

Several studies have documented findings similar to this research. For instance, McNicholas (2012) and Garg & Yadav (2019) have reported a strong association between prolonged steroid use and cataract formation, emphasizing the necessity for early ophthalmological screenings. Pérez-Rueda et al. (2021) highlighted how systemic dermatological conditions significantly contribute to ocular surface disease, which aligns with our findings on conjunctival congestion and other ocular complications. Garg & Yadav (2019) further emphasized the role of systemic drugs in causing ocular side effects, a phenomenon also observed in our study, particularly in cases of corticosteroid-induced cataracts.

Furthermore, Fraser (2018) stressed the necessity of interdisciplinary management in patients with chronic dermatological conditions to mitigate ocular complications, reinforcing the importance of a multidisciplinary approach in patient care. These findings support the need for a

multidisciplinary approach to care.

The study's strength lies in its comprehensive ophthalmological evaluations and inclusion of medication history. However, limitations include a small sample size and the lack of long-term follow-up. Future studies should incorporate larger populations and longitudinal data to further validate these findings.

Figure 1 : Herpes Zoster Ophthalmicus

Figure 2 : Tenia Faciei Causing Blepharitis

Figure 3 : Allergic Contact Dermatitis Lead To Tylosis, maderosis With Keratitis

CONCLUSIONS

This study highlights the strong correlation between dermatological disorders and ocular health. The findings emphasize the importance of a structured approach to screening and managing ocular manifestations in patients with chronic dermatological conditions. Integrating dermatology and ophthalmology practices can significantly improve patient outcomes. Future research should focus on larger sample sizes and longer follow-up durations to establish definitive clinical guidelines.

REFERENCES:

1. McNicholas, Faith C. M. '2012 Dermatology Current Procedural Terminology (CPT) Code Changes and Updates': Journal of the Dermatology Nurses' Association, vol. 4, no. 2, 2012, pp. 122–26. DOI.org (Crossref), https://doi.org/10.1097/JDN.0b013e31824ab7e6.
2. Pérez-Rueda, Antonio, et al. 'Keratitis–Ichthyosis–Deafness (KID) Syndrome: Ocular Manifestations and Management'. Indian Journal of Ophthalmology - Case Reports, vol. 1, no. 4, Oct. 2021, pp. 619–21. DOI.org (Crossref), https://doi.org/10.4103/ijo.IJO_3703_20.
3. Achten, R., et al. '093 Tear Fluid Dupilumab Levels of Patients with Moderate-to-Severe Atopic Dermatitis and Ocular Surface Disease'. Journal of Investigative Dermatology, vol. 142, no. 12, Dec. 2022, p. S196. DOI.org (Crossref), https://doi.org/10.1016/j.jid.2022.09.103.
4. Garg, Pragati, and Swati Yadav. 'OCULAR SIDE EFFECTS OF SYSTEMIC DRUGS'. Era's Journal of Medical Research, vol. 6, no. 1, June 2019, pp. 54–62. DOI.org (Crossref), https://doi.org/10.24041/ejmr2019.111.
5. Fraser, Kathy A. 'American Academy of Dermatology Annual Meeting: San Diego, CA, USA, 16–20 Feb 2018'. American Journal of Clinical Dermatology, vol. 19, no. 2, Apr. 2018, pp. 287–90. DOI.org (Crossref), https://doi.org/10.1007/s40257-018-0351-z.