



Study of Etiological and Clinico - Epidemiological Factors of Periorbital Dermatoses in a Tertiary Care Center

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ABSTRACT

Background

Periorbital dermatoses are dermatological manifestations occurring in the area around the eye including the eyelids. These are very common conditions that create both diagnostic and therapeutic challenges for dermatologists. They are a significant cosmetic concern for the patient. Although it does not cause morbidity, it can influence the quality of life in some patients. The common dermatoses encountered are peri-orbital tumors, which can be benign or malignant, pigmentary disorders both periorbital hyperpigmentation, hypopigmentation, infections, and

periorbital dermatitis. Certain specific peri-orbital lesions aid in diagnosing the underlying systemic conditions.

Objective

To study etiological and clinical-epidemiological factors, and prevalence in periorbital dermatoses and to determine the clinical features and etiological factors in periorbital dermatoses.

Methods and Methodology

This is a Prospective, hospital-based, cross-sectional, observational study conducted in a tertiary care center

over a period of one year done from January 2022 TO December 2022. A total of 100 patients attending DVL OPD with periorbital dermatoses were included in the study.

Results

Out of 100 patients enrolled 58 were females and 42 were males. The mean age of onset was 36.25 years, mean duration of disease was 1.5 years. The most common periorbital dermatoses was pigmentation disorders (22%) followed by periorbital tumors (21%), periorbital infections (15%), metabolic disorders (10%), periorbital dermatitis(9%), connective tissue disorders (4%) and miscellaneous accounting for remaining percentage.

Conclusion

Certain specific peri-orbital lesions aid in diagnosing the underlying systemic conditions. Hence thorough evaluation and workup should be conducted to detect underlying systemic abnormality. Early treatment to the detected abnormality helps in preventing long-term complications.

Keywords

Eczema, pigmentation, periorbital tumors, periorbital dermatoses.

INTRODUCTION

Periorbital dermatoses are dermatological manifestations occurring in the area around the eye including the eyelids occurring in all age groups. These are very common conditions that create both diagnostic and therapeutic challenges for dermatologists ⁽¹⁾. They are a significant cosmetic concern for the patient. Although it does not cause morbidity, it can influence the quality of life in some patients. Periorbital dermatoses can be classified according to their nature and morphology. The

common dermatoses encountered are peri-orbital tumors, which can be benign or malignant, pigmentary disorders both periorbital hyperpigmentation, hypopigmentation, infections, and periorbital dermatitis. Certain periorbital lesions, such as the Dennie Morgan fold in atopic dermatitis, the heliotrope rash in dermatomyositis, the malar rash in systemic lupus erythematosus (SLE), the beading of the eyelids in lipid proteinosis, and the xanthelasma in hyperlipidemia, help diagnose the underlying systemic illnesses. A few periorbital dermatoses are warning signs of systemic disorders that lie beneath the surface. Hence thorough evaluation and workup should be conducted to detect underlying systemic abnormality.

Only a few studies have been conducted in our region focusing on the prevalence of periorbital dermatoses. Hence the current study was undertaken.

AIM

1. To study etiological and clinical-epidemiological factors, and prevalence in periorbital dermatoses.
2. To determine the clinical features and etiological factors in periorbital dermatoses.

STUDY DESIGN AND SAMPLE SIZE

This is a Prospective, hospital-based, cross-sectional, observational, investigative study conducted in a tertiary care center over a period of one year done from January 2022 TO December 2022. A total of 100 patients attending DVL OPD with periorbital dermatoses were included in the study.

INCLUSION CRITERIA

All patients of all age groups with dermatoses in the periorbital area will be included in the study.

EXCLUSION CRITERIA

Patients who were not interested in participating in the

study were excluded.

METHODS AND METHODOLOGY

1. This is a hospital-based **observational study** done on patients irrespective of their age and sex who attended the dermatology outpatient department, with dermatological conditions in the periorbital area.
2. Demographic profiles of all patients were recorded.
3. A complete history regarding the age of onset, duration of illness, transient or persistent, associated with itching, burning, or pain, and any aggravating factors were noted.
4. History of similar illnesses in the past and in the family is also recorded.

5. General and systemic examinations performed.
6. A thorough cutaneous examination was conducted in all patients taking note of morphology, number, and distribution of lesions.
7. All patients are subjected to routine hematological and biochemical investigations.
8. Skin biopsy was performed in selective cases with diagnostic difficulty.

STATISTICAL ANALYSIS

Data collected from all the patients are tabulated and statistical analysis is done using the Chi-square test.

RESULTS

Out of 100 patients enrolled 58 were females and 42 were males (chart 1). The mean age of onset was 36.25 years, mean duration of disease was 1.5 years.

Chart 1

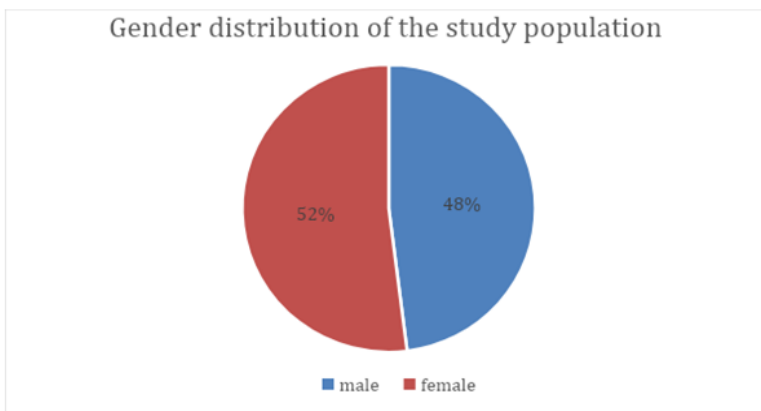


Chart 2

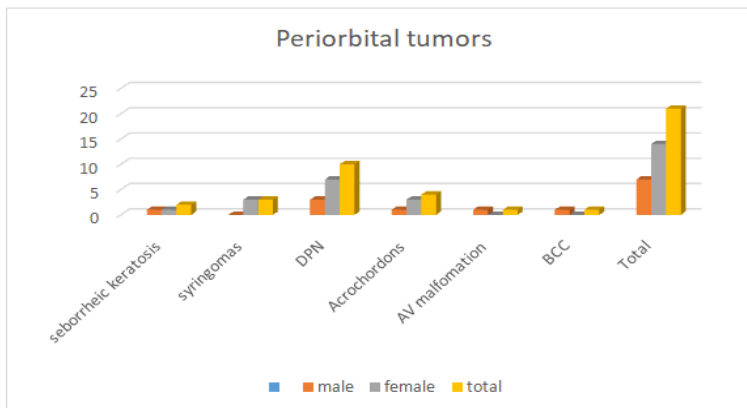


Table 1

	Periorbital pigmentation	Male	Female	Total cases
	Periorbital hyperpigmentation			
	Periocular melanosis	5	11	16
	LPP	1	1	2
	Periorbital hypopigmentation			
	Vitiligo	0	2	2
	PIH	1	1	2
	Total of pigmentation	7	15	22

Table 2

S. no.	Periorbital Dermatitis	Male	Female	Total cases
	Exogenous eczema			
1.	Allergic contact dermatitis	1	5	6
2.	Irritant contact dermatitis	1	1	2
	TOTAL	2	6	8
	Endogenous eczema			
1.	Discoid eczema	1	0	1
	Total of dermatitis	1	6	9

Table 3

S .no.	Periorbital infections	Male	Female	Total cases
	Viral infections			
1.	Periorbital warts	2	0	2
2.	Herpes zoster Ophthalmicus	2	1	3
3.	Molluscum contagiosum	5	1	6
	TOTAL	9	2	11
	Fungal infections			
1.	Tinea faciei	1	1	2
	Bacterial infection			
1.	Periorbitis staphylogenes	1	0	1
2.	Hansen's disease	0	1	1
	Total	1	1	2
	TOTAL OF INFECTIONS	12	5	17

Chart 3

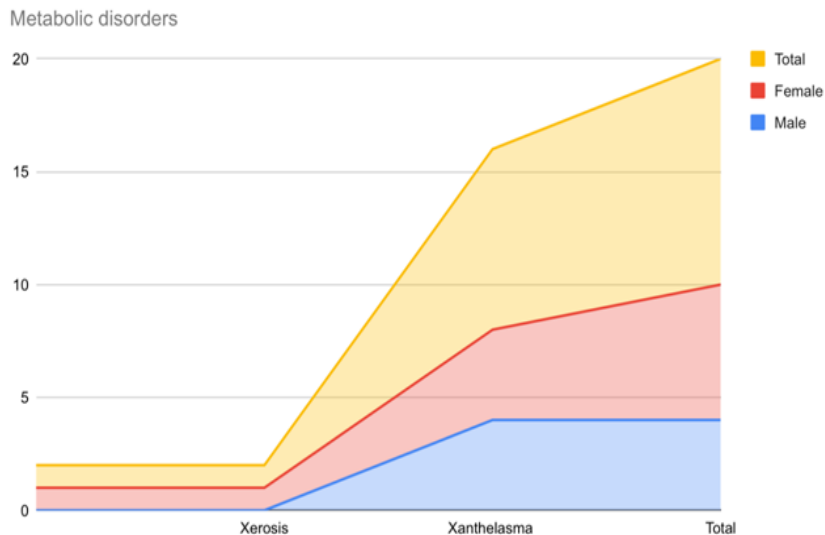


Chart 4

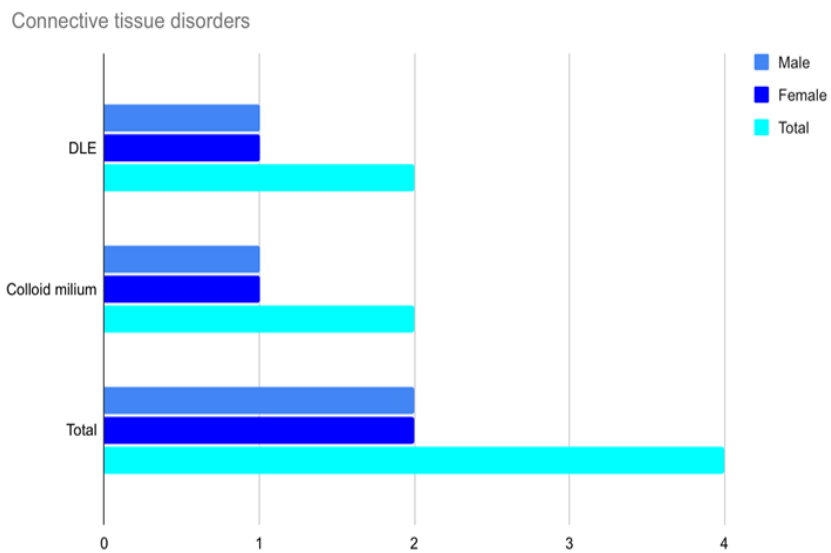
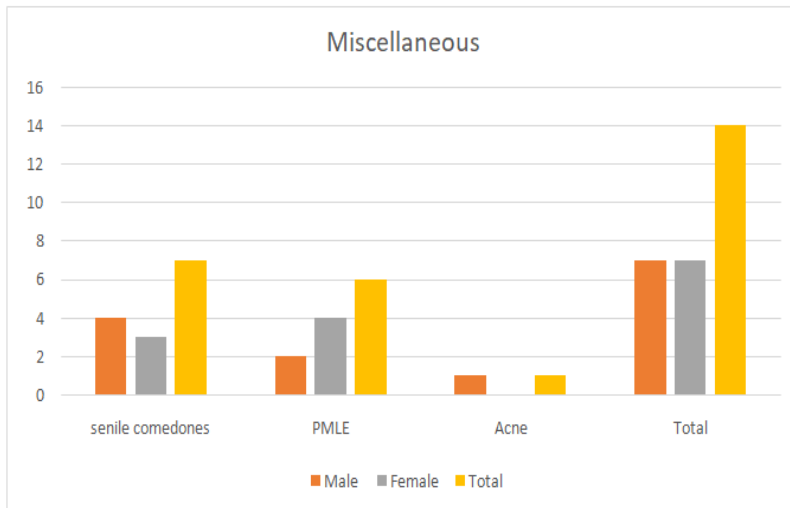


Table 4

S. no.	Nevoid conditions	Male	Female	Total
1.	Acquired melanocytic nevi	1	4	5
	Total	1	4	5

Chart 5



DISCUSSION

Face being the most prominent presentation of the human body, has got great aesthetic sense, eyes and surrounding areas are of much more importance. Exposure to the environment and other allergens and dermatoses of periorbital areas were observed in all age groups with variable frequency, forcing people to seek attention and remedy. These are categorized most often depending on their morphology.

In the current study, pigmentary disorders, tumors, infections, and eczematous conditions are among the common periorbital dermatoses that were encountered in decreasing order of frequency.

Propionibacterium acnes, coagulase negative staphylococcus are a few common skin flora bacteria that can cause infections. Sometimes staphylococcus aureus also causes infection(Table 3). They can precipitate Meibomian gland dysfunction and are commonly found to be contributors to blepharitis (inflammation), even if their presence is not always pathogenic. (Hossain and Konstantopoulos ,2015). A case of type 1 reaction presenting with erythematous plaque over supraorbital region secondary to starting of treatment to Hansen's disease was noted in our

study. Reactivation of varicella zoster virus in the sensory ganglia in immunocompromised (more severity) immunocompetent (less severe) cause zoster ophthalmicus lesions ,haraluding the possibility of subsequent post herpetic neuralgiararely it can result in serious complications like blindness . In our study 3 patients of herpes zoster ophthalmicus were noted, who were on cancer chemotherapy (Table 3); (Figure :4). According to Besra L, Jaisankar TJ et al 4 cases of Herpes zoster ophthalmicus were noted⁽¹¹⁾.After the lumbar and thoracic regions , the trigeminal nerve is the third most commonly afflicted area (13%). The ocular/periocular area is affected by 20 times more common involvement of the first division of the trigeminal nerve (Bandeira et al.,2016; Ganesan et al., 2016);

In our study of diverse periorbital skin illnesses, skin tags, connective tissue diseases(Chart 4), and periorbital pigmentation (Table 1); were more prevalent in females than in males. Similar to this, several dermatoses, such as ABCD, and seborrheic keratosis were considerably more common in older age groups. The middle-aged group showed more

prevalence of periocular melanosis and syringomas. As expected benign tumors were more common with increasing age and DPN(Chart5),(Figure 13), a genetic form of SK was seen in 7 cases of our study. Malignant dermatoses like basal cell carcinoma was noted in 1 patient(Figure 9) around the orbital region. Middle aged women were having xanthelasma in 4 patients(Chart 3),(Figure 6,7) , a skin condition that manifests clinically as symmetrically soft ,yellowish papules and plaques on the upper eyelid or both, associated with diabetes mellitus and hyperlipidemia . 2 cases of xanthelasma were noted as per Besra L, Jaisankar TJ et al⁽¹¹⁾. Although hormonal considerations play a role, the etiology of this condition is not entirely known, and the condition is primarily cosmetic in nature. Consequently, xanthelasma might be regarded as a skin indicator for subclinical atherosclerosis screening . (Kavoussi et al., 2016)

POM (Figure 12)often referred to as dark circles, or infraorbital darkens is a condition that is of concern to many, seeking cosmetics. There are four main causes of POM, 1. Shadowing from loose skin, 2.Infraorbital edema, 3.Post inflammatory hyperpigmentation,

4.Dermal melanin deposition. Stretching the skin is a simple way to rule out other reasons for PIH, such as vascularity, slack skin, and other age-related changes. Before starting the proper treatment, the source of infraorbital dark circles must be determined because there are several contributing variables. According to research, Atopic dermatitis, Allergic contact dermatitis, and post-inflammatory hyperpigmentation were the most frequent causes of periorbital melanosis(POM).

The medial canthus has a higher average frequency of BCC with orbital invasion (60%) than the lower eyelid (30%), upper eyelid 6%), or lateral canthus (14%).In our study one case of Basal cell carcinoma was noted on medial canthus (Figure 9).

CONCLUSION

Certain specific peri-orbital lesions aid in diagnosing the underlying systemic conditions. Hence thorough evaluation and workup should be conducted to detect underlying systemic abnormality. Early treatment to the detected abnormality helps in preventing long-term complications. Further research delving into the cause of eyelid dermatitis may prove to be more fruitful and significant in the future.

CLINICAL PICTURES



Figure 1: Senile Comedones



Figure 2: Senile comedones



Figure 3: Periorbital edema secondary to sweet's syndrome



Figure 4: HZ Ophthalmicus



Figure 5: AV Malformation



Figure 6: Xanthelasma Palpebrarum



Figure 7: Xanthelasma Palpebrarum



Figure 8: Discoid Lupus Erythematosus



Figure 9: Basal Cell Carcinoma



Figure 10: Neuro Fibromas



Figure 11: Alopecia Areata



Figure 12: Periocular Melanosis



Figure 13: DPNs



Figure 14: Nevi



Figure 15: Wart

ABBREVIATIONS

DVL	Dermatology, Venereology, Leprosy
DVL	Dermatology, Venereology, Leprosy
OPD	Outpatient Department
POM	Periorbital Melanosis
SK	Seborrheic Keratosis
PIH	Post inflammatory Hyperpigmentation
DPN	Dermatosis Papulosa Nigra
ABCD	Air Borne Contact Dermatitis
DLE	Discoid Lupus Erythematosus
LPP	Lichen Plano Pilaris

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