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FACIAL HYPERPIGMENTATION: A SIGHT THROUGH THE WINDOW.

Dermatology

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ABSTRACT

INTRODUCTION: Facial hyperpigmentary lesions are common and is a major issue of cosmetic concern globally. It is a heterogenous entities which sharing a common clinical features of altered pigmentation of face and is easily visible causing psychological distress to the patients.
AIMS: To assess the prevalence of facial pigmentary lesions in males and females.
METHODS: A cross-sectional, hospital-based clinical study, done in a tertiary care center over 1 month period in pigmentary clinic, includes total of 109 patients with facial pigmentary lesions. They are assessed by proper detailed history taking, clinical examination for demographic, etiological and clinical data and relevant investigations were done.
RESULTS: The maximum number of patients belonged to 21-40 years of age n=78(71.55%). Female to male ratio was 2.40:1. Among the all patients of facial hyperpigmentary lesions, melasma was the most common cause includes (n=51, 46.78%) patients, followed by postinflammatory hyperpigmentation (n=20, 18.34%) and others.
CONCLUSION: Various hyperpigmentary lesions with variable clinical presentation,etiological factors and associations affecting the face.

KEYWORDS

Facial Hyperpigmentation, Melasma, Postinflammatory Hyperpigmentation.

INTRODUCTION:

Facial hyperpigmentary lesions are common and are issue of major cosmetic concern globally. It presents a big challenge to a dermatologist in diagnosis and management in daily practice. Their prevalence is increasing due to lifestyle changes, use of various drugs, cosmetic products and various procedures such as peels, lasers and light sources besides an increasing awareness.[1] Genetic and racial factors are important as the increased pigmentation occurring more frequently in those with dark skins. Endocrine factors play a major role in melasma and to some degree in other melanoses too. External agents are essential factor in the occupational melanoses.[2] Hyperpigmentation of face includes melasma, lichen planus pigmentation(LPP), periorbital hyperpigmentation(POH), post inflammatory hyperpigmentation(PIH) etc.[3] Our study includes hyperpigmentary lesions causing facial hyperpigmentation.

AIMS AND OBJECTIVES:

To assess the prevalence of facial pigmentary lesions in males and females.

METHODS:

This was a cross-sectional study conducted over a period of 1 month in pigment clinic in the department of dermatology of a tertiary care hospital after obtaining ethical committee approval from the institute. All the patients attending out-patient department for facial pigmentary lesions were enrolled in the study after taking patient consent. After taking detailed clinical history regarding age at presentation, onset, duration of the disease, and family history was recorded. The data of different predisposing factors such as sun exposure, pregnancy, cosmetic use, atopy, iron deficiency and other endocrine diseases were noted and relevant investigations carried out.

RESULTS:

The study involves 109 patients,77 females and 32 males (female: male=2.40:1) of facial hyperpigmentary lesions. The youngest patient was a 15 years old female, and the oldest one was 68 years male, with mean age of 33.65 years. The maximum number of patients that is, 78 belonged to 21-40years, followed by 23 patients=>40 years and 8 patients=<20 years of age group.

Table-1: Demographic Data

Total patients	109
Mean age in years(range)	33.65(15-68)
Most common age group	21-40 years
Gender ratio(F:M)	2.40:1

In our study, we found 11 various categories of facial hyperpigmentary lesions. Among them, melasma was the most common finding comprising 51 patients (45 females, 6 males). One patient of which associated with oral lichen planus and polymorphic light eruption. Out of which 16 patients gave history of application of various cosmetic products and lightening agents. Freckles was seen in 10 cases, 5 were isolated presentation and 5 patients associated with melasma.45 patients had their onset in third decade while patients of seborrheic keratosis and LPP had onset after 50 years of age.

Figure-1: Centro-facial Melasma Involves Forehead, Nose And Chin

Among the patients of PIH, acne vulgaris was the most common cause in 8 cases, followed by connective tissue diseases like SCLE and SLE in 4, irritant contact dermatitis in 2 patients, 3 cases due to trauma,1 patient each for pemphigus vulgaris, perioral dermatitis, post chikungunya and pellagra. 2 patients gave history of applying over the counter(OTC) cosmetic products like steroid and fairness creams.There were 10 cases of photo-tanning (M=9, F=1) associated with history of occupation related prolonged sun-exposure and photoaggravation.

Figure-2: Acne Vulgaris PIH

LPP was seen in 10 patients with female predominanc in 7 patients. The most common presentation was violaceous irregular well defined macular lesions over face, neck and back areas.

Figure-3: Lichen Planus Pigmentosus

POH was seen in 5 females, 3 had iron deficiency anemia on blood investigations and 2 had history of pemphigus vulgaris with lesions at same site. Congenital nevi present in 3 cases, 2 had congenital melanocytic nevi and 1 had unilateral nevus of ota with scleral involvement. Single cases each for facial acanthosis nigricans and vascular mucocutaneus malformation was found.

Table-2: Types Of Facial Melanosis

Facial lesions	Female	Male	Total
Melasma	45	6	51
PIH	11	9	20
Phototanning	1	9	10
Freckles	4	1	5
LPP	7	3	10
POH	5	0	5
Melanocytic nevi	1	2	3
Facial acanthosis nigricans	1	0	1
Vascular	1	0	1
Photolichenoid eczema	0	1	1
Seborrheic keratosis	0	1	1
Hormonal with PCOD	1	0	1
Total	77	32	109

Sun exposure exacerbation was seen in 34 cases of melasma, 5 cases of freckles and all cases of LPP, phototanning, photolichenoid eczema.

Family history presented in 13 cases of melasma, 2 cases of freckles and 3 cases of periorbital hyperpigmentation. 71 patients had localized pigmentation, while 38 patients presented with diffuse extra-facial pigmentation. The most common site involved was the cheeks in 67 cases, followed by forehead in 38 cases, nose in 36 cases, periocular in 15 cases, temporal in 13 cases and perioral pigmentation in 8 cases. Total of 21 cases had pigmentation in other parts of the body, mainly over neck, back, forearms and abdomen.

Table-3: Associations Of Facial Pigmentation

Facial lesions	Aggravating factors	extrafacial lesions (%)	Family history (%)
Melasma	sunlight, pregnancy, cosmetics	-	13
PIH	sunlight, acne vulgaris, irritant cosmetics, post chikungunya, CTD	8	-
Photo-tanning	sunlight, occupation	-	-
Freckles	sunlight	-	2
LPP	sunlight, cosmetics	9	-
POH	lack of sleep	2	3
Facial acanthosis nigricans	obesity	-	-
Photo-lichenoid eczema	sunlight, occupation	1	-
Seborrheic keratosis	sunlight	-	-
Hormonal with PCOD	Hyperandrogenism	1	-

In melasma patients, the most common pattern identified was centrofacial type in 35 patients, followed by malar type in 15 patients and single case of mandibular pattern seen. No MASI score was done.

DISCUSSION:

Facial hyperpigmentary disorders are common group of disorders leads to major concerns to the patients and is important for the dermatologist for the treatment purpose. The major concern is due to easy visibility. The incidence getting increased due to major use of various cosmetic products and OTC drugs. Females preponderance was seen in this study.

Patients of facial hyperpigmentary lesions were categorized into 11 groups. Melasma was a most common presentation in 46.78% of cases. We found 29.35% of men compared to 15.06%, 19.87% and 10% in other studies.[3,4,5]. We found 66.66%(n=34) of patients aggravating melasma with sun exposure compared to 65.75% in study of hassan and aleem et al. and in sanches et al.[3,6] We found 31.37%(n=16) of patients with history of application of OTC products like fairness creams compared to 61.64% in study of Hassan and Aleem et al and this association was also reported by Achar and Rathi and Grimes.[3,4,7]

The most common pattern of melasma was centrofacial compared to other studies while in previous studies, malar pattern was most commonly reported.[3,6,8,9]

PIH was the second most common cause identified in 18.34% of patients with female predominance in contrast to the male predominance seen in previous study.[3] The most common cause of PIH in our study was acne vulgaris 40%(n=8) as compared to 37.14% in study by Hassan and Aleem et al.[3] This was also comparable to a study by Taylor et al., who evaluated acne induced PIH. Phototanning was the next most common finding with male predominance and photoaggravation includes 9.17%(n=10) patients compared to 5.8% in study done by raveendra et al.[11]

LPP, a variant of lichen planus, constituted 9.17%(n=10) of patients between third-fifth decade of life with photosensitivity which was comparable to studies done by Hassan et al, Bhutani et al. and Vega et al.[3,12,13] 70%(n=7) cases were females which was compared to the study done by Vega et al[12], while no sexual difference was seen in the study by Bhutani et al.[13] The most common color of pigmentation found in our study was slate gray to violaceous with forehead, temples and cheek predominance comparable to the studies done by Bhutani et al. and Vega et al.[12,13]

Freckles was noted in 4.58%(n=5) cases, comparable to 5.5% cases in study by Adnan et al.[14] Photoaggravation was seen in almost all cases with family history in 40% (n=2) of cases. POH was found in 4.58%(n=5) of cases with 60%(n=3) cases due to iron deficiency anemia and 40%(n=2) cases due to PIH in cases of pemphigus vulgaris. It was comparable to 48.54% and 22.5% due to anemia and PIH respectively in study by Pratik et al.[15]

CONCLUSION:

This study includes multiple facial hyper-pigmentary lesions with various presentation and overlapping lesions. The most common cause among facial hyper-pigmentary lesion was melasma followed by PIH, photo-tanning, LPP etc. The limitation of our study were small sample size and clinical means of diagnosis only.

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