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A study on clinical profile of patients with melasma at a Tertiary carse hospital

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Abstract
Melasma is an acquired pigmentation of the face, predominantly affecting women with multiple factors like high oestrogen states (pregnancy, OCP therapy), genetic factors, sunlight, cosmetics, drugs & autoimmune thyroid disease implicated in its etiology. The various topical modalities of treatment include broad spectrum sunscreens, hydroquinone in various concentration, tretinoin, salicylic acid, glycolic acid, azelaic acid. Alternative treatments to topicals include chemical peels, laser treatment and dermabrasion. The outcome of treatment also varies because of it refractory nature. Cosmetics also assume an important role in the management of this condition as a temporary means of camouflage. In the present study78 patients (65%) had malar distribution, 40 patients had centrofacial distribution and 2 patients with mandibular type reported.

Keywords: melisma, clinical profile, healthy tan

Introduction
The color of the skin has been an object of fixation for mankind since time immemorial. While a fair skinned person craves for a 'healthy tan', a darker aspires for a fairer hue. Any blotchy change in skin color is a cause of concern and misery to both the patient and the treating physician. One such pigmentery disorder that is common in clinical practice is melasma. Its occurrence over the face is of great cosmetic concern and causes psychological and social stress.

Melasma is an acquired pigmentation of the face, predominantly affecting women with multiple factors like high oestrogen states (pregnancy, OCP therapy), genetic factors, sunlight, cosmetics, drugs & autoimmune thyroid disease implicated in its etiology [1].

This is a fairly common disorder reported to involve 8-10% of the general population. Though common is both sexes, melasma is more common in females [2].

Three clinical patterns of melasma, i.e. centrofacial, malar and mandibular are recognized.

The management of melasma is a challenge as there is no gold standard treatment and recurrences are common[1]. The various topical modalities of treatment include broad spectrum sunscreens, hydroquinone in various concentration, tretinoin, salicylic acid, glycolic acid, azelaic acid. Alternative treatments to topicals include chemical peels, laser treatment and dermabrasion. The outcome of treatment also varies because of it refractory nature[2]. Cosmetics also assume an important role in the management of this condition as a temporary means of camouflage. Current theraupeutic approaches are beneficial for many patients but for some they may remain ineffective and cause significant side effects [3, 4]. Thus the treating physician must attempt to establish a risk benefit ratio for each therapeutic modality.

Methodology
A detailed history was elicited with reference to the duration, onset, progression, family history, obstetric history, gynaecologic history, cosmetic history and previous treatment. Wood's lamp examination was done. After making a diagnosis of melasma the patients were classified according to the clinical features. All patients were informed regarding the nature of disease, course, prognosis and the probable adverse effects of the treatment modalities.

After taking consent from the patients the following regimens were followed:

Regimen-1: 30 patients were inducted in this regime. They were advised to apply sunscreens

In the morning and hydroquinone (4%). At night.
Regimen-2: 30 patients were taken taken in this group. They were advised sunscreens in the morning and a combination of retinoic acid + hydroquinone + fluorinated steroid at night. (Modified kligman's regime) Regimen-3:30 patients were taken taken in this group. They were advised sunscreens in the morning and azelaic acid cream at night.
Regimen-4:30 patients were selected for chemical peeling with trichloroacetic acid. Patients were advised pre peeling with hydroquinone and retinoic acid for 3 weeks. All patients were advised sunscreens in the morning. During the peel programme, after taking necessary precautions, patients were advised to wash his/her face with soap and water. The face was then cleaned with spirit. Then one coating of acetone was applied (in required concentrations) starting from forehead - right cheek - chin - left cheek, nasal bridge - nose - perioral area - upper and lower eyelids. The tricloracetic acid was applied for a particular time period i.e. 30 seconds, 1 minute, 1 ½ minutes and 2 minutes in different concentrations. It was applied till frosting was seen. The patients were advised to clean his/her face with ice water for termination and neutrialization.

Results:

Table 1: Age Distribution

Age in years	No. of patients	Percentage
11- 20 years	14	11.7%
21 – 30 years	56	46.7%
31 - 40 years	40	33.3%
> 40 years	10	8.3%

In the present study of 120 patients, l4(11.7%) belonged to age group 11 - 20 years, 56 patients (46.7'%) belonged to age group 21 to 30 years, 40 patients (33.3%) belonged to age group 31 to 40 years and 10 patients (8.3%) belonged to age group >40 years.

Table 2: Sex Distribution

Sex	No. of patients	Percentage
Males	27	22.5%
Females	93	77.5%

In the present study of 120 patients there were 93 female patients (77.5%) and 27 male patients (22.5%).

Table 3: Occupation

Type of occupation	No. of patients	Percentage
Housewife	54	45%
Teacher	10	8.3%
Agriculture	22	18.3%
Students	13	10.8%
Others	21	17.5%

In the present study 54 patients were housewives (45%) 10 were teachers, 22 were agriculturists, 13 were students (10.8%) and 21 others (17.5%). Others which comprised of 21 patients included nurses, ward boys and attenders.

Table 4: Type of Melasma

	No. of patients	Percentage
Malar	78	65%
Centrofacial	40	33.3%
Mandibular	2 2-	1.7%

In the present study 78 patients (65%) had malar distribution, 40 patients had centrofacial distribution and 2 patients with mandibular type reported.

Table 5: Duration of lesions

	No. of patients	Percentage
Less than 1 year	23	19.2%
1 year - 5 year	72	60%
6 years - 10 years	15	12.5%
More than 10 years	10	8.3%

In the present study 23 patients had onset of lesions of duration less than 1 year (19.2%) 72 patients had onset of lesions of duration 1-5 years (60%) 15 patients had onset of lesions of duration 6-10 years (12.5%) patients had onset of lesions of duration more than 10 years (8.3%).

Table 6: Family History

	No. of patients	Percentage
Father	0	0%
Mother	18	15%
Sister/s	21	17.5%
Brother/s	2	1.7%
Total	41	34.1%

In the present study 41 patients gave history of similar lesions in a first degree relative.

Table 7: Aggravating Factors

	No. of patients	Percentage
Photoaggravation	66	55% 5~8.%3
Drugs	10	8.3%
Use of cosmetics	37	30.8%
Menstrual irregularities (n=93)	7	5.8%

In the present study photoaggravation was seen in 66 patients (55%) use of medication was seen in 10 patients (8.3%) use of cosmetics in 37 patients (30.8%) and menstrual irregularities was seen in 7 patients (5.8%).

Table 8: Concomitant Dermatological Illness

	No. of patients	Percentage
Acne vulgaris	20	16.7%
Tinea versicolor	4	3.3%
Milia	2	1.7%
Seborrheic dermatitis	3	2.5%
Dermatosis papillosanigra	3	2.5%

In the present study Acne vulgaris was seen in 20 patients (16.7%), Tinea versicolor in 4 patients (3.3%), Milia in 2 patients (1.7%), Seborrheic dermatitis in 3 patients (2.5%), Dermatosis papillosanigra in 3 patients (2.5%).

Discussion

In the present study the incidence of melasma was found to be 2.7%. The exact incidence of melasma is unknown[3].
In the present study of 120 patients 14(11.7%) belonged to age group less than 20 years; 56 patients (46.7%) belonged to age group 21 to 30 years, and 40 patients (33.3%) belonged to age group 31 to 40 years and 10 patients (8.3%) belong to the age group > 40 years.
Griffiths[5] in 1993 in his study had revealed the age of onset of melasma averaged 30 years.
Kalla *et al* [6] in their study of 100 patients had revealed 87% between 20- 40 years with maximum number 54% in 20-30 years.
Thus the results of the present study are in concurrence with the studies done by other authors.
In the present study females constituted to almost 77.5% (93 patients) as compared to men who constituted to 22.5% (27 patients). Kalla *et al* [6]. (2001) in their study of 100 patients had revealed 61% of female patients and 39% of male patients.

The higher incidence of melasma in females in the present study can be attributed to the fact that most of the patients belonged to the urban area and were literate. This reflects the cosmetic orientation in this group of individuals.

According to the present study, 45% of patients were housewives, 13% were students, 22% were agriculturists, 21% others and 10% teachers. The higher incidence of melasma in housewives is in concurrence with the number of females enrolled for the study. The higher incidence among agriculture workers can be attributed to the photoelement, whereas the higher incidence among students reflects the cosmetic orientation of this group.

In the present study 65%of patients (78) had malar distribution, 33.3% of patients (40) presented with centrofacial type and 2 patients with mandibular type reported. Kimbrough *et al* [7] 1994 have reported in his study of 28 patients 73% having malar distribution.

Kimbrough *et al* [7] in 1994 have reported in their study of 30 black patients malar distribution in 73% which was in contrast to their previous study in whites, in which centrofacial was noticed in 72% of patients.

Raja Babu [8] in 1997 in his study has reported malar type as the commonest presentation in Indians. Amer *et al* [9] in 1998 in their study of Egyptian patients reported centrofacial pattern in 63% of cases, malar pattern in 21% of cases and mandibular pattern in 16% of cases.

Perez et al[10] in 1983 in their study of 9 Puerto Rico patients reported centrofacial pattern in 88.8% patients and 11.2% having malar pattern.

Lawrence *et al* [11] in 1997 in their study of 16 patients from Georgia reported malar/mandibular type in 82% of patients and centrofacial type in 18% of patients.

Vazquez *et al* [12] in 1988 reported in their study of 25 Puerto Rico and 2 south American men with melasma, 44.1% having centrofacial pattern, 44.1% malar pattern and 11.1% having mandibular pattern.

The review of all above studies indicates that the site of location of melasma is different in different parts of the world and also in different ethnic groups.

In the present study 60% of patient had onset of duration of lesions between 1 and 5 years, 12.5% of patients between 6 and 10 years, 8.3% > 10 years and 19.2% less than 1 year.

Vazquez *et al* [12] in 1988 in their study have reported that the average duration of the condition being 8 years.

Kalla G et al[6] in 2001 revealed that the duration of onset of disease was < 1 year in 40% patients and 32% had pigmentation for more than 3 years. Hurley et al[13] in 2002 in their study of 25 Hispanic women found the duration of melasma of 11-20 years in 55% of the patients, <10 years in 39% of the patients and 21-30 years in 6% of the patients. The duration of melasma in this study could be attributed probably to the lack of awareness of treatment of this condition and also due to a lack of cosmetic interest existing in that pacticular group. But in view of a small sample size, the exact. Conclusion regarding the long duration cannot be clearly drawn. Comparitively early reporting of patients for treatment in the present study, reflects the concern of our patiens regarding their facial appearance.

In the present study history of melasma in a first degree relative was found to be 34.1% (41 patients).

Kimbmugh *et al* [7] In 1994 in their study of 30 patients revealed a family history in 40% of 15 patients studied.

Hurley *et al* [13] in 2002 in their study of 18 patients have reported a history of melasma in a first degree relative in 44% of the patients.

Vazquez *et al* [12] in 1988 in their study of 28 patients reported a history of melasma in close family members in 70.4% of pateints. Pathak *et al* [14]. In 1986 in their study of 300 Hispanic patients reported familial history of melasma in more than 30% of their patients. Thus the results of the present study are almost in concurrence with that of other studies.

Conclusion

The common age of onset is 21-30 years. In our study, more than 75% were females. This may be attributed to the increased usage of OCPs, cosmetics and hormonal influence in women.

Like in majority of the studies, malar pattern of melasma was the commonest in our study.

Most of our patients presented for treatment within 1-5 years of onset. This delayed presentation may be attributed to the misbelief among patients that melasma is a sign of good fortune and should be left as such.

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