

ASSESSMENT OF CLINICAL PROFILE OF MELASMA AMONG PATIENTS VISITING
TERTIARY CARE CENTER

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ABSTRACT

Background: Melasma is a chronic and recurrent disorder which has been under-diagnosed for decades and is under-treated due to lack of effective definitive therapies and the perception that it is merely a cosmetic nuisance and nothing much except hyper pigmentation. **Material & Methods:** The present cross-sectional prospective study was conducted at department of dermatology of our tertiary care hospital. Patients of all 3 types of melasma attending the outpatient department of dermatology were selected irrespective of age, sex, duration and previous therapy. **Results:** Malar region was the commonest affected area found in 84% patients followed by Centro-facial in 53% and least involvement was seen in forehead region in 39% patients. On Wood's lamp examination 64% patients had epidermal type of pigmentation, 23% patients had mixed type of pigmentation and only 17% patients had dermal pigmentation. 36% patients reported association of occurrence of the lesions with pregnancy, 16% patients reported sunlight to be the offending agent, 9% patients were habitual of working on computers and in 3% cases there was history of application of some cream / lotion. **Conclusion:** Females were affected more commonly during their late third decade of life. Although we did not find the exact cause of melasma, we noticed that sun-exposure, pregnancy, and taking of oral contraceptive pills could precipitate or exacerbate the melasma.

Key words: Melasma, Pregnancy, clinical profile.

INTRODUCTION

Melasma (chloasma faciei) is an acquired, mostly symmetrical hyper-melanosis characterized by “moth eaten” tan or brownish patches with well defined margins that occur on the sun exposed areas of the skin. It is a chronic and recurrent disorder which has been under-diagnosed for decades and is under-treated due to lack of effective definitive therapies and the

perception that it is merely a cosmetic nuisance and nothing much except hyper pigmentation. The main area of involvement is face and hence it is of major cosmetic concern to the patient.

The exact prevalence of melasma is unknown in most of the countries due to lack of the large epidemiological studies. Melasma is among the most common cutaneous disorders, accounting

for 0.25 to 4% of the patients seen in Dermatology Clinics in South East Asia, and is the most common pigment disorder among Indians. (1) Melasma is primarily a disease of women of child-bearing age although 10% of cases occur in men. The exact etiology of melasma is unknown, rather mysterious. However, multiple factors are implicated in its etiopathogenesis, mainly sunlight, genetic predisposition and role of female hormonal activity hence, more common in the female gender. Genetic factors are also involved, as suggested by familial occurrence and the higher prevalence of the disease among Hispanics and Asians. (2) This study is aimed at studying the epidemiology, clinical presentation, and precipitating and / or provocation factors associated with melasma.

MATERIALS & METHODS

The present cross-sectional prospective study was conducted at Department of Dermatology of our tertiary care hospital. The study duration was of six months from May 2016 to October 2016. A sample size of 100 was calculated at 95% confidence interval at 10% acceptable margin of error by epi info software version 7.2. Clearance from Institutional Ethics Committee was taken before start of study. Written informed consent was taken from each study participant. Patients with active acne lesions over face; history of taking oral phenytoin in last 1 year; old facial dyschromia; ashy melanosis; uncontrolled systemic disease; any condition necessitating UV-light therapy; any concomitant disease that might interfere with the diagnosis of facial hyper-pigmentation were excluded from the study. Patients of all 3 types of melasma attending the outpatient department of dermatology were selected irrespective of age, sex, duration and previous therapy. Data analysis was carried out using SPSS v22. All tests were

done at alpha (level significance) of 5%; means a significant association present if p value was less than 0.05.

RESULTS

The main age group affected was 30-39 years i.e. 51% patients. The second most affected was 20-29 years i.e. 29% patients, 17% belonged to 40-49 years age group while 3% patients belonged to 50-59 years age group. Total 16 out of 100 patients were males and rest 84 patients were females. total 30 patients had a positive family history of melasma in either parents or any of the siblings. Total 21% patients had a positive history of using OC Pills as a mode of contraception while 6% were under medication for hypothyroidism and only 01 patient gave history of taking hormone replacement therapy for inability to conceive. Out of total of patients 24% patients had melasma for less than 1 year; While 28% patients had the lesions for more than 5 years. Most common presentation was between 1-3 years of disease duration 36%. (Table 1)

Table 1: Distribution of study participants according to risk factor and duration.

parameters		No. of patients (%)
Associated Condition	Use of OC pills	21
	Thyroxin Sod.	6
	Hormone replacement therapy	01
Duration (in years)	<1	24
	>1-3	36
	>3-5	12
	>5	28

Malar region was the commonest affected area found in 84% patients followed by Centro-facial in 53% and least involvement was seen in forehead region in 39% patients. On Wood's lamp examination 58% patients had epidermal type of pigmentation, 23% patients had mixed type of pigmentation and only 19% patients had dermal pigmentation. (Table 2)

36% patients reported association of occurrence of the lesions with pregnancy, 16% patients reported sunlight to be the offending agent, 9% patients were habitual of working on computers and in 3% cases there was history of application of some cream / lotion over the face which were OTC drugs or prescribed by some GP. Among 36% cases precipitating factor was not identified. (Table 3)

Table 2: Distribution according to pattern of distribution and type of pigmentation

parameters		No. of patients (%)
Pattern of Malar distribution	Malar	84
	Centro-facial	53
	Forehead	39
Type of pigmentation	Epidermal	58
	Mixed	23
	Dermal	19

Table 3: Distribution according to precipitating factor.

Suspected agent	No. of patients (%)
Pregnancy (P)	36
Sunlight (S)	16
Working on computer (C)	9
Iatrogenic (I)	3
Other	36

DISCUSSION

Melasma is an acquired increased pigmentation of the skin. It is a commonly seen entity in clinical practice. Few studies show that melasma accounts for 4–10% of the new cases in the dermatology hospital, as a referral. (3, 4) Similarly it is found to be the third most common pigmentary disorder of the skin, confirmed in a survey of 2000 black people, at a private clinic in Washington DC.⁵ The main age group affected was 30-39 years i.e. 51% patients in our study compared to 42.3 years, reported in a study from Singapore.⁶ Melasma is more common in women. We found about 16% involvement of men in our study compared to 10% in a different study. (7) A positive family history was observed, 30%, in the present study, which was in correlation with an earlier reported study, in which it varied from 20 to 70%. (7,8)

Multiple causative factors have been implicated in the etiology of melasma, including, ultraviolet light (sunlight), hormones (oral contraceptives), and pregnancy. There appears to be an increase in the number and activity of melanocytes in the epidermis of patients with melasma. The melanocytes appear to be functionally altered. (9) We have noticed that about 16% of our patients had sun exposure, which they felt was an aggravating factor. It is in great contrast to Pathak's report, which suggests that sunlight exacerbates melasma in all patients (10).

In this study only 36% of the female patients noted pregnancy as a precipitating and aggravating factor, respectively. Only 21% of them were taking oral contraceptives during their disease process, which was not related to the precipitating or aggravating symptoms / signs. These figures are lower than those reported earlier. (10) Few other studies have also reported

a minimum relation with either pregnancy or oral contraceptives. (9)

According to the distribution of the lesions we recognized three clinical patterns and among these, malar was the most common, like other studies from India and abroad.(11,12) However, studies from Singapore and South India observed that malar distribution was the most common. (12, 13) This variation of results might be due to environmental or regional differences.

Under the Wood's light examination, we found that the epidermal type was the most common, in similar to an earlier study, which suggested that the epidermal variety was the most common.14

CONCLUSION

Females were affected more commonly during their late third decade of life. Although we did not find the exact cause of melasma, we noticed that sun-exposure, pregnancy, and taking of oral contraceptive pills could precipitate or exacerbate the melasma.

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