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CLINICAL AND EPIDEMIOLOGICAL STUDY OF MELASMA IN ASRAM MEDICAL COLLEGE, ELURU.

Dermatology

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ABSTRACT

Melasma is a chronic localized acquired disorder of hyper melanosis of the skin, characterized by irregular brown hyper pigmented macules symmetrically distributed on sun exposed areas of the body particularly on the face. It is one of the most common pigmentary disorders of the skin , which needs dermatalogical care that effects mainly women particularly during the menacme and more pigmented pheno types (Fitzpatrick skin types III to V). Due to it's frequent facial involvement the disease has an impact on the quality of life of patients. It's pathogenesis is complex which is not yet completely understood and involves inter play of various precipitating factors such as genetic, sun exposure, Pregnancy, hormonal, photosensitizing drugs and cosmetics. Melasma is also associated with clear genetic predisposition since over 40% of patients reported having a clear-cut family history of melasma . In this study the main clinical and epidemiological aspects of melasma are studied.

KEYWORDS

Pregnancy, hormones, oral contraceptives, ultra violet radiation, photosensitizing drugs, Menacme.

Introduction:

Melasma is a localized chronic acquired hyper melanosis of skin which manifests as symmetrical, irregular hyper pigmented macules and patches on the face. It occurs symmetrically on sun exposed areas of the body and effects especially women in menacme[1] with Fitzpatrick skin types IV to VI.

The word melsama originates from the greek root “melas” which means black and refers to its brownish clinical presentation. The word chloasma (derived from the greek word. 'chloazein' meaning greenish) is often used to describe melasma developing during pregnancy . But the pigmentation never appears to be green therefore the term melasma is preferred[2].

Disease descriptions can be found in the medical literature extending as far as the reports of hypocrites 470 – 360 BC.

The exact prevalence of melasma is unknown in most of the countries. It accounts for up to 4% of patients in south east Asia and is the most common pigmentary disorder among Indians[3,4]. It affects all races but there is particular prominence among Hispanics and Asians[5]. Although women are predominantly effected men are not excluded from melasma representing approximately 10 % of all cases. It is rarely reported before puberty.

The exact causes of melasma are unknown. However various external and internal multiple factors are said to be involved in its etiopathogenesis. A rapid increase of pigmentation in melasma lesions are almost inevitably seen after continuous prolonged sun exposure and so naturally melasma lesions gradually fades during a period of sun avoidance. Genetic factors are also involved as suggested by familial occurrence and the higher prevalence of the disease among Hispanics and Asians .

The hyperpigmented patches may range from single to multiple and usually symmetrical on face and occasionally v – neck area .
The cause of its etiopathogenesis is multifactorial and includes sun light, genetic and hormonal activity. Other factors include pregnancy, contraceptives, thyroid dysfunction, cosmetics, photo toxic and anti seizure drugs [8].

According to distribution 3 clinical patterns of melasma are recognized[7].

1. Centro facial- involves fore head, cheeks, upper lip, nose and chin.
2. Malar – cheeks and nose
3. Mandibular – Ramus of mandible.

Using woods light it can be classified in to four histological types depending upon the depth of pigment deposition [10].

1. Epidermal
2. Dermal
3. Mixed
4. Indeterminate where the pigment is apparent in the woods light and In individuals with skin type VI [9].

In epidermal type the pigmentation is intensified under woods light and is the most common type. Melanin is increased in all epidermal layers. In the dermal type the pigmentation is not intensified. It has many melanophages throughout the entire dermis. In the mixed type the pigmentation becomes more apparent in some areas while in others there is no change.

Aims and objectives

This study is aimed at studying and analyzing the epidemiology, clinical presentation and precipitating or provocative factors associated with melasma.

Materials and methods

This study was carried out on the clinico epidemiology of melasma patients between February 2015 to May 2016 attending ASRAM Medical College OPD. Total 460 patients with a clinical diagnosis of melasma were taken for this study.

The Demographic data regarding age at present, age of onset, sex, duration, family History and intake of Drugs were noted. The data of various predisposing factors like Sun exposure, pregnancy cosmetics, ovarian tumors, thyroid disorders and diabetes were included and all relevant investigations were carried out to rule out the same.

Extensive clinical evaluation was done and depending upon the distribution of lesions they were divided into Centro facial, malar and mandibular. Woods lamp examination was done to establish the histological pattern .

RESULTS

This study comprised of 460 patients of melasma. The demographic features of which are given in the following tables 1 to 3

POPULATION[(n=460)
TABLE 1 : ETIOLOGICAL

1	**Mean average age**	32.5 Years
2	**Sex ratio**	5:1(384-76)
3	**Mean age of onset**	29
4	**Mean duration of reporting**	2.6Years
5	**Family history**	88 (19.1%)

TABLE 2: ASSOCIATED FACTORS

Sl.No	Female cases - 384		No of cases	Percentage
1	**Pregnancy**	**precipitation**	95	24.7 %
		exacerbation	48	12.5 %
2	**Oral contraceptives and other hormones**		39	10.1 %
3	**Ovarian tumors**		2	0.52%
4	**Cosmetics**		38	9.8%
Males and females				
1	**Sun and UV Light Exacerbation**		310	67.3%
2	**Thyroid disorders**		10	2.17%
3	**Diabetes**		10	2.07%
4	**Photo Toxic and Anti Seizure Drugs**		0	0

TABLE 3: DISTRIBUTIONS

1	**Centro facial**	184	40%
2	**Malar**	267	58%
3	**Mandibular**	9	2%
Histological			
1	**Dermal**	300	64.9%
2	**Epidermal**	90	19.5%
3	**Mixed**	70	15.2%

Out of the total 460 patients 384 are females and 76 are males with an age range of 17 to 55 years. It was more in women with a female to male ratio of 5 : 1. In our study the disease mostly presented after 35 years of age. Mean age of onset of melasma was 29 years ranging from 13 to 50 years. Most of them sought medical treatment only after 2.6years after the appearance of the melasma. Positive family history was observed in 88 patients.

Out of the total 460 patients, 310 gave a history of exacerbation and remaining of the 150 did not notice any change. Out of 384 female patients 95 patients show precipitation and 48 patients show exacerbation during pregnancy. Only 39 patients has taken oral contraceptives and only 2 patients are associated with ovarian tumors. 38 patients used many different types of cosmetics on a regular basis at least 4 days a week. No other auto immune disorders except 10 thyroid and 10 diabetic patients were found.

According to distribution 3 clinical patterns are found. Out of them malar (267) is most common. Other types are centrofacial (184) and Mandibular (9).

Under woods light examination dermal was most common (300). Others are 90 epidermal and 70 mixed types respectively.

Discussion

Melasma is a very common skin entity in clinical practice. The Prevalence of melasma varies between 1.5 % and 33% depending on population [12,13]. Few other studies shows that melasma account for 4 to 10 % of new cases in the dermatology hospital as a referral [14,15].

Similarly it is found to be the third most common pigmentary disorder of skin confirmed in survey of 2000 black people in Washington DC [16].

In our study the mean average age of melasma was 32.5 years compared to 42.3 years reported in a study from Singapore [17]. It is common in females. In our study 16.5 % males are effected compared to 10 % in a different study [6]. Mean age of onset was 29 years in contrast to an earlier study which reported it at a later age of onset (38 Years), but the duration of disease for attending the clinic was same [16]. In the present study a positive family history was observed in 19.1 % of the cases, which is in contrast to previous study in which it varied from 20 to 70 % [18,19].

The etiology of melasma is multi factorial including UV Light, Hormones, Pregnancy. The melanosites are increased in number and appear to be functionally altered [20]. We noticed that 67.3% of our patients felt that UV light was an aggravating factor which is in contrast to Pathak's report which suggests that sun light exacerbates melasma in all patients [21].

20 % and 10 % of female patients noted pregnancy as precipitating and aggravating factors. 8.4% were taking contraceptives and other Hormones. These statistics are lower than those reported earlier [21]. It appears that hormones or even pregnancy may not be a significant factor in the etiology of melasma . Only 2 patients had ovarian tumors, 10 patients with thyroid disorders and 10 patients with diabetes were found. Only 38 patients admitted the association of cosmetics. Previously this association was found by Grime et al..in 1995 [8].

Among the 3 clinical patterns, malar distribution was the most common seen in 267 (58 %) cases, which is similar to other studies from Singapore and south India [17,22] , and in contrast to other studies in which Centro facial was the most common [7,22].

In our study the dermal type was the most common in contrast to other studies in which epidermal variety was most common [23].

In our study we found that environment and UV radiation plays a major role in melasma particularly in south India. Other factors like Hormones, cosmetics also play a minor role. The genetic factors and association with other autoimmune disorders like thyroid and diabetes should be further studied and investigated.

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