

A Clinico-epidemiological Study of Facial Hypermelanosis

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Abstract: Hypermelanosis is a commonly encountered pigmentary disorder in dermatology practice. This study was aimed to study the epidemiology, clinical presentation, and precipitating and/or provocation factors associated with facial hypermelanosis. The study included 200 patients attended, with dermatological problems to the DVL OPD Department ACSR Government General hospital, Nellore, Andhra Pradesh, India. The present study was conducted from January 2018 to December 2018 over a period of 12 months. The demographic data was recorded and clinical evaluation was done. Out of 200 cases studied the most common cause being melasma in 94(47%) cases followed by post inflammatory hyperpigmentation in 48(24%) and periocular melanosis in 24 (12%) cases. Riehl's melanosis in 15(12.5%), Lichen Planus Pigmentosus in 6 cases (3%). Ephelides in 6 cases (3%). Ashy Dermatitis in 5(2.5%) cases and Nevus of OTA in 2 cases (1%). This study indicates that facial hypermelanosis has multifactorial etiology such as photo exposure and hormonal influences such as pregnancy, cosmetic usage and thyroid disorders. We also found family history of melasma in some of our patients.

Key words: Hypermelanosis, Clinico-epidemiology, dermatology, Melasma, multifactorial

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I. Introduction

Most of the common disfiguring facial disorders include the hyperpigmentary disorders, which causes misery to human. Pigmentary disorders are of considerable cosmetic importance because they can significantly affect a person's social psychological well-being (1). Face and neck are commonly involved and it often presents as a complex diagnostic problem. Normal skin color is dependent on the quantity and type of melanin pigment in the melanocytes and keratinocytes. The thickness of the stratum corneum, the dermal vasoconstriction or vasodilatation and the occasional presence of endogenous or exogenous pigments may also modify the skin color. Several factors may be responsible for the numerous hyperchromatic processes affecting the epidermis and/or dermis: hereditary, endocrine, nutritional, neoplastic, inflammatory, drugs, physical and chemical play a major role in facial melanosis (2). Due to their visibility, facial and neck pigmentations (cervicofacial pigmentations) are the most cosmetically important. Here we have conducted the study with the objectives to study the clinico-epidemiological characteristics of facial hypermelanosis and to assess the role of various aetiological factors in causing or influencing facial hypermelanosis (3, 4).

Facial hypermelanosis may occur from a variety of clinical entities; common ones such as melasma, lichen Planus Pigmentosus, Riehl's melanosis, erythema dyschromicum perstans, and uncommonly from poikiloderma of Civatte, erythromelanosis follicularis of face and neck, nevus of Ota, periorbital melanosis, exogenous ochronosis, or acanthosis nigricans. Sun exposure and exposure to photosensitizing agents play a pivotal role in the pathogenesis of many of these disorders (5). Since, most Indian populations are occupationally engaged in agrarian work or manual labour exposing them to prolonged sunshine without adequate sun protection that possibly predisposes them for facial hypermelanosis. The use of cosmetics that may contain some unlisted photosensitizing agents or have a potential for pigmented cosmetic dermatitis too has increased in recent years (6). Systemic or topical medicaments, indigenous and over-the-counter (OTC) preparations, may have photosensitizing potential and induce facial pigmentation in some of these individuals (6, 7).

II. Materials and Methods

All patients of facial hypermelanosis attending the DVL OPD Department ACSR Govt. General hospital, Nellore, Andhra Pradesh, India were included in this study. The present study was conducted from January 2018 to December 2018 over a period of 12 months. About 200 consecutive patients, all ages and both sexes were examined for the presence of facial pigmentation. In the presents study we studied, the clinical patterns of facial melanosis of the patients according to the ROOK's text book of dermatology. The association

of other pigmentary anomalies like acanthosis nigricans, amyloidosis, and pigmentary demarcation lines over face were also studied.

II. 1. Clinical examination

Patients were thoroughly interviewed and examined to find out dermatological and systemic diseases. Vital data like blood pressure, pulse rate, respiratory rate were recorded and they were subjected to investigations to evaluate different etiological factors and diagnose the clinical type of facial pigmentation. Complete blood picture, ESR, complete urine examination, Random blood sugars, blood Urea, serum creatinine were performed. Other investigations like, Wood lamp examination, thyroid function tests in suspected cases of thyroid dysfunction and in women with menstrual irregularities, Patch test were carried out when ever indicated.

III. Observations and Results

The study population comprised of 200 patients of facial hypermelanosis, out of 13,855 patients who attended the DVL department at ACSR government general hospital for various dermatological problems from January 2018 to December 2018.

III. 1. Age, sex and occupation wise distribution of cases

The study group age comprises between 15-65 yrs for both sexes, with mean age 32.74. The maximum number of patients belonged to 31-40 years age group (42%), followed by 21-30 years (31%). Out of 200 patients, 62 males (31%) and 138 females (69%) were included in this study. Among 200 cases, 51 patients were agriculturists (25.5%) that include 21 males and 30 females, 49 were housewives (24.50%), 43 were students (21.50%), and 57 belong to other occupations (28.50%).

III.2. Diagnosis

In the present study, we come across 8 different categories of facial hypermelanosis. The most common cause being melasma in 94 cases (47%). It had its onset presentation in 3rd and 4th decades of life in majority of cases. It was common in females as observed in 80.85% of the cases in comparison to 19.14% of males. Post inflammatory hyperpigmentation in 48 and periocular hypermelanosis in 24 cases were observed. Lichen Planus pigmentosum in 6 cases, Ephelides in 6, Ashy Dermatitis in 5 and Nevus of OTA in 2 cases were observed.

III.3. Duration of symptoms

In the present study, the duration of symptoms ranged from 1 month to 18 years. In 50% of cases the symptoms were present since <1 – year duration, followed by 2-5 yrs in 34% of cases. Among the cases having less than 1-yr duration, Melasma (32%) and PIH (28%) were the common conditions.

III.4. Exacerbation of pigmentation on sun exposure

More than 65% of cases Lichen Planus Pigmentosum and Ephelides, Riehl's Melanosis, Peri Orbital melanosis. 60% of cases of melasma and PIH and Ashy Dermatoses had exacerbation of pigmentation on sun exposure.

III.5. Cosmetic Usage

Out of 200 cases, there was history of cosmetic use in 36% of cases. In which 28 patients gave history of application of fairness creams for a mean duration of 2.6 yrs, followed by bleaching agents, steroid creams and ayurvedic preparations in 7% each which they had applied for < 1 year. Application of fairness creams were common in melasma (18 cases) followed by 15 cases of PIH and a case each in periocular and Riehl's melanosis (7).

III.6. Family history

Similar complaints have been observed in the family among 20, out of 94 cases of melasma (20%), 33% of Ephelides cases, 58% of Periocular melanoses cases.

IV. Discussion

The present study was conducted in the span of one year and involved 200 patients. The mean age of patients in our study was 32.74 years. Facial hypermelanosis is common in middle aged women and are related to endogenous (hormones) and exogenous factors (usage of cosmetics, perfumes, exposure to sun and radiation) and also facial hypermelanoses causes significant cosmetic disability which may be the reason for slightly more number of female patients seeking medical advice.

Out of 200 cases studied the most common cause being melasma in 94(47%) cases followed by post inflammatory hyperpigmentation in 48(24%) and periocular melanosis in 24 (12%) cases. Riehl's melanosis in 15(12.5%), Lichen Planus Pigmentosus in 6 cases (3%). Ephelides in 6 cases (3%). Ashy Dermatitis in 5(2.5%) cases and Nevus of OTA in 2 cases (1%).

Melasma is an acquired hypermelanoses, characterized by gray-brown symmetrical patches, mostly in the sun exposed areas of the skin (8). The pathogenesis is unknown, but genetic, hormonal and UV radiation are important predisposing factors (9). Melasma has been reported in 8.8% of Latin American females in the Southern USA and in up to 40% population in South-East Asia (10). The present study almost correlates with

this study. An earlier study Lufti et al reported significant association of thyroid autoimmunity or oral contraceptive pills usage in melasma (11). There was no other autoimmune disease noted, except hypothyroidism in 10 patients (10.63%) out of 94 cases of Melasma.

Second most common cause of facial hypermelanoses in our study Post inflammatory Hypermelanoses (24%) which represents the sequelae of various cutaneous disorders and interventions which include infections, reactions to medications, phototoxic eruptions, CTD, trauma and inflammatory diseases. In one study, out of 208 cases they found 16.34% of PIH affected patients which is in correlation with present study. In the present study most of the PIH occurred due to solar melanosis 17 cases (36%), followed by Acne 12 cases (25%) and connective tissue disorders (CTD) in (13%) remaining all less than 6% (12).

Peri Orbital Hypermelanosis present with a dark area surrounding the eye lids. It is an ill defined condition, and the pathogenesis can be multifactorial. In our study POH constituted 12% of cases of facial hypermelanoses. Several reviews were correlated with this study (13).

In our study, Riehl's melanosis was observed in 7.5% of cases. In one study Riehl's melanoses constituted 5.7% of total cases which is almost similar to the present study (14). And LPP was a common pigmentary disorder seen in the Indian population having distinct clinical and epidemiological characteristics. LPP constituted 3% of patients in our study. Bhutani et al also reported 4.1% incidence of LPP in his study. It generally starts in the 3rd and 6th decade of life. Earlier studies were also reported its occurrence at a similar age group in their patients(16).

Ashy dermatoses is also called as Erythema Dyschromicum Perstans (Edp) was seen in 5 cases of 200 cases studied (2.5%) (15). There is no specific age of incidence can occur in any age. In present study there was female preponderance which correlates with a previous study. And Ephelides had an early age of onset. There were more common in fairer people with positive family history in 33.3% of cases which correlates with previous study.

V. Conclusion

This study indicates that Facial hypermelanoses have multifactorial etiology such as cosmetics, sun exposure and hormonal influences such as pregnancy, intake of oral contraceptive pills and thyroid disorders. We also found family history of melasma in some of our patients.

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