

# A Clinico-Epidemiological Study of Facial Hypermelanosis at a Tertiary Care Center in Tamilnadu

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**Abstract:** *Background:* Facial hypermelanosis is a common pigmentary disorder, which encompasses a wide spectrum of diseases. Hypermelanosis is of great cosmetic concern causing significant distraction leading on to psychological distress. Sun exposure and photosensitizing agents play an important role in pathogenesis of hypermelanosis. *Aim:* To study clinicoepidemiologic patterns of facial hypermelanosis among various age groups. *Methodology:* Hundred patients with facial hyperpigmented lesions attending dermatology outpatient department in a tertiary care hospital were to be included in this study. Clinical history regarding age, sex, predisposing factors and detailed clinical examination were to be done in all these patients. *Result:* Among 100 patients of facial hypermelanosis, melasma was the most common pigmentary skin disorder comprising about 32% of patients, second most common entity was post acne hyperpigmentation (14%). Eleven patients with facial melanosis had drug-induced pigmentation, five had periorbital hypermelanosis, seven of them had friction-induced melanosis, seborrheic melanosis was observed in six patients, acanthosis nigricans in five patients, lichen planus pigmentosus in five patients, nevus of ota in three patients, fixed drug eruption in two patients and Addison's disease in 1 patient.

**Keywords:** Facial hypermelanosis, over the counter drug use, sun exposure

## 1. Introduction

Facial melanosis is commonly seen in Fitzpatrick skin types III and IV as in Indian population. Hyperpigmentation of skin over the face being quite visible, leads on great psychological impact in most of the patients. Facial hypermelanosis may occur from a variety of dermatological skin conditions, which includes melasma, lichen planus pigmentosus, Riehl's melanosis, erythema dyschromicum perstans, nevus of Ota, periorbital melanosis, exogenous ochronosis and acanthosis nigricans. Some of the other conditions like steroid abuse and hair dye usage, Addison's disease, fixed drug eruption, frictional and seborrheic melanosis may also produce hyperpigmentation. Most of the Indian people have risk of increased exposure to sunlight with regards to their occupation, which is the most important precipitating factor for facial hypermelanosis (1)

## 2. Materials and Method

We analyzed 100 patients with facial hypermelanosis who had consulted in department of dermatology at saveetha medical college and hospital over a period of 6 months. Data was collected with regards to demography, duration of

complaints, occupation, cosmetics use, amount of sun exposure, drug intake, association with any systemic diseases. The diagnosis of facial hypermelanosis was based on history and clinical features of skin pigmentation.

## 3. Result

In our study, 100 patients with facial pigmentation were recorded, hyperpigmentation was commonly seen in female (67%) patients than in males (33%).

Male	Female
33	67

In our study, we observed 13 different causes for facial hypermelanosis, which included melasma in 32 patients, 14 patients with post-acne hyperpigmentation, 11 patients with skin lightening cream induced pigmentation, 6 patients with hair-dye induced pigmentation, 7 with friction induced melanosis, 6 with seborrheic melanosis, 3 had nevus of ota, 5 of them had lichen planus pigmentosus, one patient had addison's disease, 3 among them had freckles and 2 patients had got fixed drug eruption

S. No	Disease	Male	Female	Total	Percentage
1	Melasma	5	27	32	32%
2	Post Acne Hypermelanosis	6	8	14	14%
3	Peri Orbital Hypermelanosis	1	4	5	5%

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4	Skin Lightening creaminduced Pigmentation	4	7	11	11%
5	Hair Dye Induced Pigmentation	1	5	6	6%
6	Nevus Of Ota	1	2	3	3%
7	Acanthosis Nigricans	4	1	5	5%
8	Frictional Melanosis	5	2	7	7%
9	Seborrheic Melanosis	2	4	6	6%
10	Lichen Planus Pigmentosus	0	5	5	5%
11	Addison's Disease	1	0	1	1%
12	Freckles	1	2	3	3%
13	Fixed Drug Eruption	2	0	2	2%

Facial melanosis was commonly observed in all age groups, but causative factors were different. In 15 to 25 age-group people, most common underlying disease was post acne hyperpigmentation followed by skin lightening cream induced pigmentation. Higher number of melasma patients were found to be in middle age group (35-45 years).

Seborrheic and frictional melanosis were more or less equally seen in 15 to 25 and 25 to 35 age groups.

S. No	Disease	15 to 25 (34)		26 to 35 (34)		36 to 45 (25)		>46 (7)	
		M (16)	F (16)	M (10)	F (24)	M (6)	F (21)	M (1)	F (6)
1	Melasma (32)			1	8	3	14	1	5
2	Acne Pigmentation(14)	4	4	2	3		1		
3	Peri Orbital Hypermelanosis(5)		1	1	3				
4	Skin Lightening creaminduced Pigmentation(11)	2	3	2	3		1		
5	Hair Dye Induced Pigmentation(6)					1	4		1
6	Nevus Of Ota(3)	1	2						
7	Acanthosis Nigricans(5)	2		2	1				
8	Frictional Melanosis(7)	3		1	2	1			
9	Seborrheic Melanosis(6)	1	3	1	1				
10	Lichen Planus Pigmentosus(5)		3		2				
11	Addison's Disease(1)	1							
12	Freckles (3)	0	0		1	1	1		
13	Fixed Drug Eruption(2)	2							

#### 4. Discussion

In our study we observed 32 cases of melasma, among them females were more commonly affected than males. Most of the Indian study shows melasma affects both genders, but middle aged females are affected more than males (mean age 33.5 years). Causative factors for melasma are not yet clearly understood, but some of the factors may involve in the pathogenesis of melasma including UV radiation, hormonal factors, genetic factors, drugs and also associated with thyroid dysfunction and anemia(2)

Acne is a major cause of post inflammatory pigmentation. Our study shows 14 patients with post acne pigmentation, commonly seen in younger age groups. Sameer et al study also found acne vulgaris as one of the common skin diseases producing post inflammatory pigmentation(3) Improper application of acne medications as well as sunscreen and frequent touching and picking of acne lesions are the major precipitating factors for excessive pigmentation (4)

Periorbital hypermelanosis is commonly seen in younger females, etiology of which may be genetic predisposition, atopy, sleep deprivation, stress, refractive errors and skin laxity. Prolonged usage of computers and televisions combined with altered sleeping habits may have caused increased prevalence of periorbital hyper melanosis(5). In our study we had five patients with periorbital hypermelanosis, the etiology in their case was not ascertainable.

Acanthosis nigricans is characterized by velvety hyperpigmented plaques in the flexures and often involves neck and facial skin. Sedentary life style causing obesity has led to an increased prevalence of acanthosis nigricans manifesting as facial hypermelanosis. In our study we found only 5 patients out of 100 cases of facial melanosis (6). All five patients were in younger age group and were obese with BMI > 28.

Seborrheic melanosis is a term used by Indian dermatologists, which is described as thickening and darkening of the skin in theseborrheic areas of the face, namely, the alar grooves, angles of the mouth and labiomental crease (7). Mainly seen in dark individuals from Asia, Africa and Hispanic population, we encountered 6 patients having thick hyperpigmented skin over the ala of the nose and perioral regions suggestive of seborrheic melanosis.

Frictional melanosis is an uncommon acquired pigmentary disorder due to habit of repeated rubbing. Although a history of friction is often the clincher in the diagnosis of frictional melanosis, it must be differentiated from other pigmentary lesions like acanthosis, melasma and macular amyloidosis(8) We saw 7 patients having features of frictional melanosis in our study.

Freckles are characterized by small brown macules over the face and commonly seen in fair skinned people. Increased exposure to sunlight (UV rays) is found to be the common precipitating factor. Three of our patients in the middle age

group had freckles. In Gupta et al study, freckles and lentigens were found in 26 (8.7%) patients with Fitzpatrick skin type III-IV aged between 19 and 46 (mean 26.4) years(9).

Lichen planus pigmentosus is characterized by asymptomatic or mildly pruritic slate gray to brownish black, diffuse, reticular, blotchy, linear or perifollicular macular lesions. In this study we observed Lichen planus pigmentosus in 5 patients, and they were not associated with any systemic conditions(10)

Nevus of Ota (3 patients), fixed drug eruption (2 patients) and Addison's disease (1 patients) were other less commonly observed dermatoses.

## 5. Conclusion

There are a multitude of skin disorders manifesting with facial hypermelanosis. Facial melanoses are difficult to manage and recalcitrant to treatment. Identifying the preventable causes, proper counselling on avoidance of home-made remedies and OTC products will go a long way in bringing better treatment outcomes when managing such a crippling condition which creates a huge psychological impact on patient's self esteem

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