

## Facial Melanosis in India: Fresh Perspectives

Vijay K Somani\*

Somani Skin & Cosmetology Centre Clinic, India

### Introduction

Facial pigmentation is unique, not only because it is responsible for profound psychological impact, but it also erodes the patient's confidence and self-esteem. There are several well-delineated facial melanoses described in literature. The pigmentary disorders vary according to various factors, including race, geographic location, age, sex etc. The constitutive pigmentation also differs in a race, females having a lighter color than males. Racial pigmentation differs not because of differences in melanocyte number but because of several other reasons, like size of melanosomes, extent of melanization and the arrangement of melanosomes within keratinocytes.

This article focuses on a few facial pigmentary disorders, seen in Indian subpopulation more frequently. These conditions are not very well characterized, yet are distinctive enough to be diagnosed accurately. The recognition of these fairly common dermatoses is important to prevent misdiagnosis and to devise proper and effective therapeutic strategies.

### Pigmentary Demarcation Lines

Pigmentary Demarcation Lines (PDLs), also known as Fitcher's or Voight's lines, are physiological, abrupt transitions from deeper pigmented skin to lighter pigmented skin. Eight pigmentary demarcation lines have been described and categorized so far. Selmanowitz and Krivo described five types of PDLs present in both black Africans and Japanese [1].

The five PDLs named A to E briefly appear as follows:

A - On the lateral aspect of the upper arm extending over the pectoral area,

B - On the posteromedial portion of the lower limb,

C - Medio-sternal line, a vertical hypopigmented line in the pre and parasternal area,

D - On the posteromedial area of the spine, and

E - Bilateral hypopigmented streaks, bands or lanceolate areas over the chest in the zone between the mid-third of the clavicle and the periareolar skin.

Later three more PDLs were described over the face in Indian subpopulation [2].

These were found to be quite common in Indian population. This study, comprising of 4000 study population reported a frequency of about 9% in female population, compared to less than 1% in males. These were labelled as Line F, G, and H, and are briefly described as under:

F - 'V' shaped hyperpigmented lines between the malar prominence and the temple

G - 'W' shaped hyperpigmented lines between the malar prominence and the temple

H - Linear bands of hyperpigmentation from the angle of the mouth to the lateral aspects of the chin (Figures 1-3).

In a recent study from Saudi Arabia, 14% of 1033 subjects screened were found to have at least one facial PDL [3].

Facial PDLs usually begin around puberty and remain unchanged. Positive family history in a significant proportion of study population, ranging from 35 to 61% points to a genetic predisposition in facial PDLs. Hormonal influence could possibly explain the female preponderance and the peri-pubertal onset. Cutaneous mosaicism at the cellular level and lyonization of the paternal X chromosome in these cutaneous mosaic phenotypes could explain the familial aggregation and the female preponderance of these facial demarcation lines. Treatment of facial PDLs, F, G and H is generally unsatisfactory.



Figure 1: PDLs over the face in Indian subpopulation-1

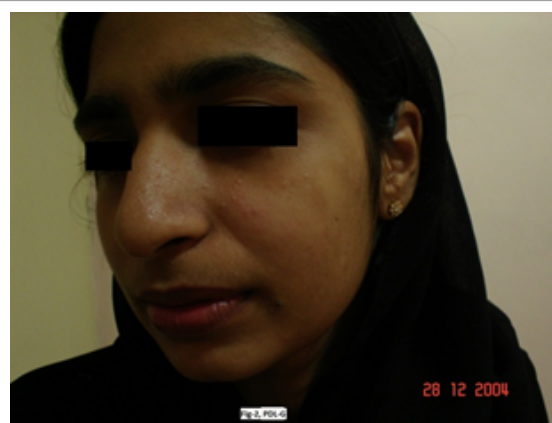


Figure 2: PDLs over the face in Indian subpopulation-2

\*Corresponding author: Vijay K Somani, Somani Skin & Cosmetology Centre Clinic, 3-1-560, Himayathnagar, Hyderabad, Andhra Pradesh, India, Tel: +919966677666; E-mail: [vksonani@gmail.com](mailto:vksonani@gmail.com)

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## Seborrheic Melanosis

Another very common entity seen in India is a uniform brown or brown-black pigmentation over the face. This kind of pigmentation is seen mainly in men with type III to type V skin type (Figures 4 and 5). There is diffuse pigmentation over the entire face, with a rim of normal skin just adjacent to the frontal hairline, which is normally shaded from sunlight by the hair, suggesting some causal role of sunlight on the remainder of face. The face invariably exhibits features of seborrhoea, either in the form of increased greasiness, or acne lesions, or post acne scars. There is often pronounced pigmentation in the naso-labial folds, in the grooves adjacent to the alae nasi, and in the sulcus between the lower lip and chin, all seborrheic areas. The twin factors responsible for this particular condition appear to be seborrhoea and exposure to sunlight. Another peculiar and inexplicable feature is the sparing of nose in most of the cases. Considering seborrhoea and sunlight as the causative agents, the nose obviously is expected to show the maximum pigmentation, which is not the case in most of the cases.

## Pigmented Cosmetic Dermatitis

There has been a recent spurt in the cases of pigmented cosmetic dermatitis especially in women in India. It occurs in young and middle aged women and manifests as asymptomatic, uniform brown-black, grey-black or blue-black pigmentation (Figures 6 and 7). There are no textural changes. The neck may or may not be involved. If the neck is involved, it may show either a diffuse or a patchy distribution. The nose is again spared in most of the cases. Pigmentation tends to be very persistent, with little change over time. The recent increase in this type of pigmentation parallels the widespread and increased usage of cosmetics and the recent trend of undergoing a cosmetic procedure before a social event, however trivial that may be. The explosion of hair-care products of late, newer age defying cosmetic concepts, increased usage of perfumes all may contribute to the growing cases of pigmented cosmetic dermatitis of the face [4-6].

## Acanthosis Nigricans

Usually unilateral and asymptomatic, it tends to present especially in middle aged men. It usually appears over the right or the left cheek, over the zygomatic region. The patch is well defined, hyperkeratotic, sometimes showing a mammillated or papillomatous surface. It is generally seen in obese individuals, and if present on both the cheeks, there is usually uneven pigmentation, between the two sides (Figures 8 and 9). There may or may not be other areas involved with acanthosis. There is frequently involvement of neck showing pigmentation and thickening of the skin and skin tags. A search for other components of metabolic syndrome in such cases is therefore warranted.



Figure 4: Seborrheic Melanosis: 1



Figure 5: Seborrheic Melanosis: 2



Figure 6: Pigmented Cosmetic Dermatitis-1



Figure 3: PDLs over the face in Indian subpopulation-3



Figure 7: Pigmented Cosmetic Dermatitis-2



Figure 8: Acanthosis Nigricans-1



Figure 9: Acanthosis Nigricans-2

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