

A Clinical Investigation of Women with Facial Pigmentary Dermatoses in A Tertiary Care Facility

¹Prof. (Dr.) Seeba Hussain, HOD, Department of Dermatology, Venereology & Leprosy, Katihar Medical College, Katihar, Bihar, India

Corresponding Author: Prof. (Dr.) Seeba Hussain, HOD, Department of Dermatology, Venereology & Leprosy, Katihar Medical College, Katihar, Bihar, India

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Abstract

Background: The face is a crucial body part for aesthetics. Any alteration in skin tone or the appearance of a rash on the face has an impact on a person's social and psychological well-being. Each facial dermatosis has distinct demographic differences as well as clinical manifestations. Therefore, it is crucial to have in-depth understanding of the dermatoses that affect the face.

Methods: In this cross-sectional hospital study, 250 female patients with facial pigmentary dermatoses participated over the course of 18 months in a tertiary centre. Following the acquisition of their informed consent, an evaluation was conducted using a thorough history taking, clinical examination, demographic and etiological data in a pre-designed proforma, relevant investigations including the skin scrapings for KOH mount, woods lamp examination, and skin biopsy, where necessary.

Results: There were 250 patients covered in all. The most prevalent condition, found in 79 (31.54%) patients,

was melasma. The least common dermatosis, ashy dermatosis, was only observed in 1 (0.56%) patient. The majority of the facial pigmentary problems in this study were connected to the patients' occupations and lifestyles. Stress, past photoaggravation, and cosmetic use were all often seen in the patients. Housewives were the next largest demographic, followed by agricultural workers.

Conclusion: Among those with pigmentation, hyperpigmentary dermatoses predominated over hypopigmentary ones. This study aims to close the knowledge gap on the prevalence and clinical manifestations of facial pigmentary dermatoses. These dermatoses significantly affect the female patrons of the institution's Dermatological Quality of Life (DLQI), as well as their physical and mental health.

Keywords: Facial melanosis, melasma, pigmentary disorders, vitiligo

Introduction

Concerns about health and sickness often centre on the face. The fundamental source of identity for an individual is their facial features. Compared to other regions of our bodies, facial skin is more vulnerable to UV radiation, allergies, infections, and cosmetic use. Any facial lesions cause increased anxiety and prompt early medical attention [1-3].

Pilosebaceous diseases, pigmentary disorders, infections, eczema, connective tissue diseases, and immunological bullous disorders are only a few of the dermatological illnesses that can affect the face. Some of them simply affect the face, while others are the first signs of systemic disorders. Therefore, early detection of these disorders aids in effective management [4-6].

An individual's primary identity is determined by their facial appearance. Because of its strong vascular supply and numerous sebaceous glands, facial skin differs from other areas of the skin. In comparison to limbs or the trunk, the dermo epidermal junction of facial skin has a flattened contour, which reduces the prominence of the papillary dermis [7, 8].

Methods

This cross-sectional study was carried out in the Department of DVL, Katihar Medical College, Katihar, over the course of 18 months. After receiving their informed consent, a total of 250 female patients with facial pigmentary dermatoses were evaluated utilising a thorough history and physical examination, as well as demographic and etiological data in a pre-designed proforma. Skin scrapings for potassium hydroxide mount, woodlands lamp examinations, skin biopsies, and other pertinent investigations were carried out as needed. Included were females over the age of 10 with facial dermatoses who visited the OPD at the department of

DVL and provided informed consent. Sexually transmitted infections and drug responses were not included.

Data was entered into a Microsoft Excel sheet, and IBM SPSS 22.0 was used for analysis. Categorical data are displayed as percentages, whereas continuous data are summarised as mean and standard deviation.

Results

Table 1: Patient Age Distribution

Age	Number	Percentage
10-19	40	16.32
20-29	45	18.04
30-39	55	21.96
40-49	47	18.61
50-59	25	10.13
60 and above	38	14.94

People with facial pigmentary dermatoses are most frequently in the 30-39 age group, followed by those in the 40-49 age group.

Table 2: Occupational pattern

Occupation	Number (250)	Percentage
Student	53	21%
Sedentary	25	9.85%
Home makers	66	26.75%
Agricultural labourers	83	34.07%
Manual Labourers	23	9.31%

Homemakers and agricultural labourers are the two occupations that are most frequently associated with facial pigmentary dermatoses

Table 3: Spectrum of Facial Pigmentary Dermatoses

Pigmentary Dermatoses	Number (250)	Percentage (%)
Ashy dermatoses	1	0.5%
Lentigines	2	0.9%
Pityriasis versicolor	2	0.9%
Vitiligo	8	3.2%
Nevus of Ota	3	1.2%
Freckles	5	2.1%
Phytophotodermatitis	3	1.3%
Riehl's melanosis	4	1.5%
Pityriasis alba	4	1.5%
Bindi dermatitis	10	3.8%
Melasma	78	31.4%
Post-inflammatory hyperpigmentation	27	10.6%
Periocular pigmentation	31	11.6%
Dermatosis papulose nigra	72	28.3%

Between patients, Melasma and dermatosis papulosa nigra are the two facial pigmentary dermatoses that are frequently seen.

Table 4: Patients with Hyperpigmentary Dermatoses

Disorder	Number (200)*
Ashy dermatoses	1
Lentigines	1
Pityriasis versicolor	2
Nevus of Ota	2
Phytophotodermatitis	3
Riehl's melanosis	4
Freckles	5
Bindi dermatitis	5
Melasma	75
Dermatosis papulose nigra	67

Post-inflammatory hyperpigmentation	15
Periocular pigmentation	20

*The majority of individuals with the hyperpigmentary dermatoses (200) had melasma, with only a few cases having overlaps of multiple pigmentary disorders (70).

Table 5: Melasma pattern

Melasma Pattern	Total (n=78)	Percentage
Malar	30	39.1%
Centrofacial	48	60.2%

Among 78 melasma patients, 48 patients (60.2%) had the centrofacial pattern and 30 patients (39.1%) had the malar pattern.

Discussion

250 individuals had pigmentary diseases, 147 of whom (58.6%) were between the ages of 20 and 49. The two most frequent triggering causes were discovered to be UV radiation (sunlight) and cosmetics. The most prevalent disorder was DPNs, which was followed by melasma. The results of this study corroborated those of Kavya M. and Nataraj H.V. [8] (2014) study on face hypermelanosis, which revealed that melasma was the most prevalent type of the condition and that it was most commonly caused by UV radiation in those between the ages of 31 and 40 (41%).

Melasma was found to be the most prevalent of the facial pigmentary disorders, with a prevalence of 56.73% between the ages of 21 and 40, according to Hassan I, Aleem S, Bhat YJ, Anwar P et al. (2015) [9]. 78 patients had melasma. Of these, 56 (71.4%) are agricultural labourers who have a documented history of pigmentation aggravation following extended sun exposure. Similar statistics were reported by Yalamanchili R and Shastry V (2015) [12], who found that agricultural labourers (46.4%) made up the largest

group. High sun exposure was blamed for the discovery because it is one of the main etiological causes of melasma. In their review study, Ana Carolina Handel and Luciane Donida Bartoli Miot (2014) [10] highlighted the importance of medicines, pregnancy, and sun exposure as recognised melasma triggers.

Out of 78 melasma patients, 85.71% had the most significant aggravating factor identified as sunlight. This study's findings were comparable to those of Hassan I, Aleem S, Bhat YJ, Anwar P et al. (2015) [9], S Kumar, Mahajan B B, Kamra N (2014) [11], Tamega Ade A, Miot LD, Bonfietti C (2013) [13], Achar A, Rathi SK (2011) [14], and Yalamanchili R, Shastry V (2015) [12]. Centrifacial type melasma was the most prevalent pattern, occurring in 48 patients (60.2%), followed by malar type melasma in 30 individuals (39.1%). Achar A, Rathi SK (2011) [14], Goh CL, Dlova CN (1999) [15], Hassan I, Aleem S, Bhat YJ, Anwar P et al. (2015) [9] and Yalamanchili R, Shastry V (2015) [12] identified malar melasma as the most common kind, followed by centrifacial melasma. S Kumar, Mahajan BB, Kamra N (2014) [11] reported a similar finding. In 72 patients with Dermatitis Papulosa Nigra (DPNs), 59 (81.18%) had a favourable family history and were between the ages of 45 and 65. The sores first formed on the face before spreading to other areas. Additionally, 93.3% of patients had a familial propensity, according to Niang SO, Kane A (2007) [16].

31 individuals (11.6%) had periorbital pigmentation. 17 people, or 56.09 percent, were between the ages of 20 and 40. These patients were mostly housewives with disturbed sleep patterns and stress (60.9%). Kavya M. and Nataraj HV8 reported comparable figures. Hassan I, Aleem S, Bhat YJ, Anwar P et al. (2015) [9] revealed that 71.4% of their study sample had insufficient sleep as

a contributing factor. According to Sheth PB, Shah HA, and Dave JN (2014) [7], 71% of housewives had periorbital hypermelanosis as a result of stress.

18 of the 27 individuals in our study who had post-inflammatory hyperpigmentation (PIH) had a history of the condition brought on by acne and irritating contact dermatitis. The research of Hassan I, Aleem S, Bhat YJ, Anwar P, et al. (2015) [9] and Sarkar (2012) [5] are comparable to this. 5 patients, including three students and five agricultural workers, had freckles, which were likely brought on by increased sun exposure and a lack of proper sun protection. 4 patients had Riehl's melanosis. They all discussed the use of steroid creams, fairness creams, and cosmetics historically. Kavya M. and Nataraj H.V. (2014) [8] made comparable observations. 2 cases with onset at birth and unilateral nevus of Ota were identified. Similar research was done by Sekar S, Kuruvila M, and Pai HS in 2008 [17].

Our study included 41 hypopigmented face dermatoses, 8 individuals with vitiligo, 4 with P. alba, 2 with pityriasis versicolor, and 27 with post-inflammatory hypopigmentation. Similarly, P.alba was found in 22, vitiligo was found in 19, and post-inflammatory hypopigmentation was found in 8 patients in the study by Hassan I, Aleem S, Bhat YJ, Anwar P et al (2015) [9]. In a study of hypopigmented and depigmented face lesions, Soni B, Raghavendra KR et al (2015) [18] discovered P. alba in 27.33%, P. versicolor in 21%, vitiligo in 19.33%, and post-inflammatory hypopigmentation in 14% of a total of 300 patients aged 0–19 years.

P.alba and vitiligo were the two most prevalent hypomelanotic face disorders in both trials. The age categories affected by P. alba are mostly paediatric. Therefore, the inclusion criterion of age above 10 years

may be to blame for the relatively low number for P. alba in this study. 8 patients between the ages of 10 and 20 were discovered to have vitiligo of the progressive type. This is consistent with research by Shah H, Mehta A, and Astik B (2008) [19] who found that 32.82% of 365 patients had vitiligo in their second decade of life.

Conclusion

Melasma was the most prevalent of the facial pigmentary dermatoses in our investigation and UV radiation (sunlight) was a key aggravating factor. This study aims to close the knowledge gap on the prevalence of facial dermatoses among female clients of this institution, which have a significant impact on their physical and mental health as well as their DLQI (Dermatological Quality of Life).

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