ORIGINAL RESEARCH

A clinical study of facial pigmentary dermatoses in women in tertiary care centre

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ABSTRACT

Background: Face is the most prominent part of the body. Facial blemishes and disorders directly reflect on patient's physical appearance, cosmesis and self-image. They may contribute to dysmorphism and even lead to depressive illness in susceptible individuals, especially in women. Therefore, it is important for early identification and management of facial skin disorders.

Aims: To study the clinical patterns and their epidemiological determinants of pigmentary dermatoses among female patients above the age of 10 years.

Materials and Methods: This cross-sectional hospital based study, conducted in a tertiary centre over a period of 18 months from January 2015 to July 2016, involving 355 female patients with facial pigmentary dermatoses.After taking their informed consent, assessment using detailed history taking, clinical examination, demographic and etiological data in pre-designed proforma,relevant investigations including the skin scrapings for KOH mount, woods lamp examination and skin biopsy, wherever required were done.

Results: A total number of 355 patients were included. Melasma was the most common disorder which was observed in 112(31.54%) patients. Ashy dermatosis being the least wasrecorded only in 2(0.56%) patients. Most of the facial pigmentary conditions in this study were related to occupation and lifestyle of the patients.History of photo-aggravation, stress and cosmetics use was commonly observed among the patients. Agricultural workers were the predominant group followed by housewives.

Conclusion: Among the pigmentary, hyperpigmentary were more than hypopigmentary dermatoses. This study is an effort to fill this gap in the understanding of occurrence and clinical patterns of facialpigmentary dermatoses. These dermatoses have a major bearing on Dermatological Quality of life (DLQI), physical and mental well being among the female clientele of the institution.

Key Words: Facial pigmentary dermatoses, Melasma, UV radiation

INTRODUCTION

The face or countenance, extends superiorly from the adolescent position of hairline, inferiorly to the chin and the base of mandible and on each side of the auricle[2]. Face has a major impact on the psychological wellbeing of the individual. Facial skin differs markedly

from the skin of the other regions of the body. This makes the facial dermatoses stand apart, both in terms of the clinical presentation as well as therapeutic approach[3].

Pigmentary disorders of the skin can either be hypomelanotic, hypermelanotic, or a mixed pattern. Hyperpigmentary disorders may be classified[4] as: Melasma, Erythema dyschromicumperstans, Lichen planus pigmentosus, Riehl's melanosis, Nevus of Ota, Ephelides/Freckles, Lentigines, Exogenous ochronosis, Maturational dyschromia and Periorbital hyperpigmentation, also referred to as idiopathic cutaneous hyperchromia of the orbital region, periorbital melanosis, dark circles or infraorbital pigmentation[5,6]. The most common hypo-pigmented disorders that involve the face arevitiligo, pityriasis alba and post-inflammatory hypopigmentation[7, 8].

AIMS AND OBJECTIVES

- To study the clinical patternsof facial pigmentary dermatoses among female patients above the age of 10 years.
- To study the epidemiological determinants.

MATERIALS AND METHODS

This was a cross-sectional study, conducted over a period of 18 months from January 2015 to July 2016 in the department of DVL of a tertiary care hospital. A total of 355 female patients with facial pigmentary dermatoses after taking their informed consent assessed using detailed history taking and clinical examination, demographic and etiological data in pre-designed proforma. Investigations including the skin scrapings for potassium hydroxide mount, woods lamp examination, skin biopsy and relevant investigations, wherever required were done. Female above the age of 10 years with facial dermatoses, who gave informed consent attending OPD of department of DVL were included. Drug reactions and Sexually Transmitted Infections were excluded.

ETHICAL CONSIDERATIONS

Ethics clearance was obtained from the institutional review board(MediCiti ethics committee), MediCiti Institute of Medical Sciences (MIMS), Ghanpur, before the start of the study**.**

DATA ENTRY AND ANALYSIS

Data was entered in Microsoft Excel sheet and analyzed using the IBM SPSS 22.0 software. Continuous data are summarised as mean and standard deviation, categorical data are presented as percentages.

RESULTS

Table 1: Age Distribution of Patients

Age (years)	Number (355)	Percentage (%)
10-19	58	16.33
20-29	64	18.03
30-39	78	21.97
40-49	66	18.60
50-59	36	10.14
60 and above	53	14.93

30-39 years of age groups age are most common people with facial pigmentary dermatoses followed by 40-49 yrs.

Table 2: Occupational Pattern

Occupation	Number (355)	Percentage (%)
Agricultural labourers	121	34.08
Home maker	95	26.76
Students	71	20
Manual labourers (other than agricultural labourers)	33	9.30
Sedentary	35	9.86

Agriculture labourers are most common occupation with facial pigmentary dermatoses followed by home makers.

Table-3: Spectrum of Facial Pigmentary Dermatoses Among Patients

Facial Pigmentary Dermatoses	Number (355)	Percentage (%)
Melasma	112	31.5
Dermatosis papulosa nigra	101	28.4
Periocular pigmentation	41	11.5
Post-inflammatory hyperpigmentation	38	10.7
Bindi dermatitis	14	3.9
Vitiligo	12	3.3
Freckles	8	2.2
Riehl's melanosis	6	1.6
Pityriasis alba	6	1.6
Phytophotodermatitis	5	1.4
Nevus of Ota	4	1.1
Lentigines	3	0.8
Pityriasis versicolor	3	0.8
Ashy dermatoses	2	0.5

Most seen presentation of Facial Pigmentary Dermatoses is melasma followed by Dermatosis papulosa nigra.

Table- 4: Hyperpigmentary Dermatoses Among Patients

Disorder	Number (337)**
Melasma	112
Dermatosis Papulosa Nigra	101
Periocular pigmentation	41
Post-Inflammatory Hyperpigmentation	38
Bindi dermatitis	14
Freckles	8
Riehl's melanosis	6
Phytophotodermatitis	5
Nevus of Ota	4
Lentigines	3
Pityriasis versicolor	3
Ashy dermatoses	2

** = Few cases were having overlaps of more than one pigmentary disorder

Among the Hyperpigmentary dermatoses (337) melasma was observed in majority of patients (112).

Table-5: Pattern of Melasma

Melasma pattern	Total (112)	Percentage
Centrofacial	68	60.1
Malar	44	39.2

Among 112 patients of melasma 68 patients (60.1%) were centrofacial pattern of melasma and 44 patients (39.2%) weremalar pattern of melasma.

FACIAL PIGMENTARYDERMATOSES CASES IN PRESENT STUDY

Figure -1: Malar Melasma **Figure – 2: Centrofacial Melasma**

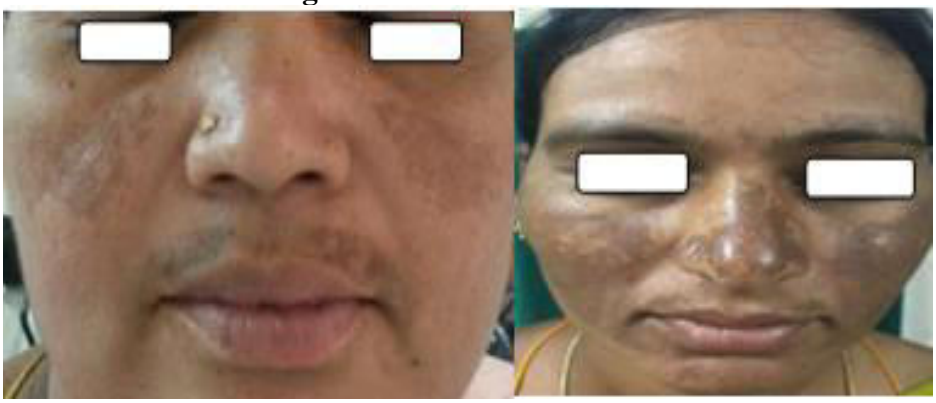


Figure- 3: Vitiligo **Figure- 4: Vitiligo**

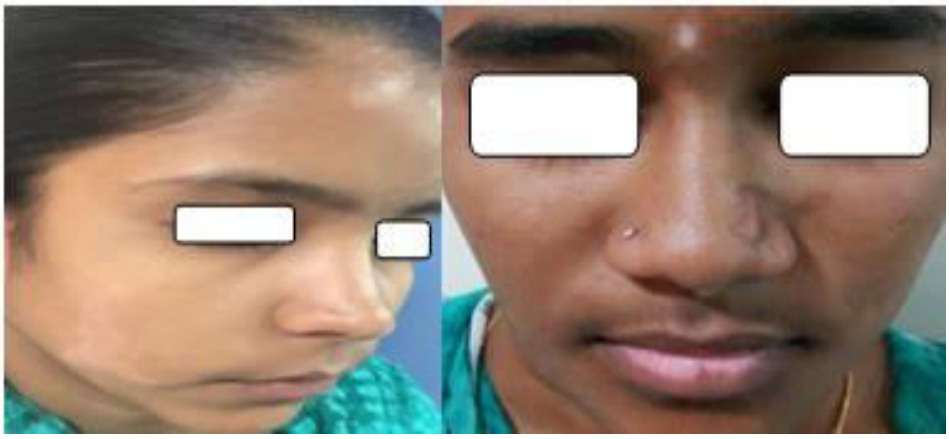


Figure- 5: DPNs **Figure- 6: Freckles**

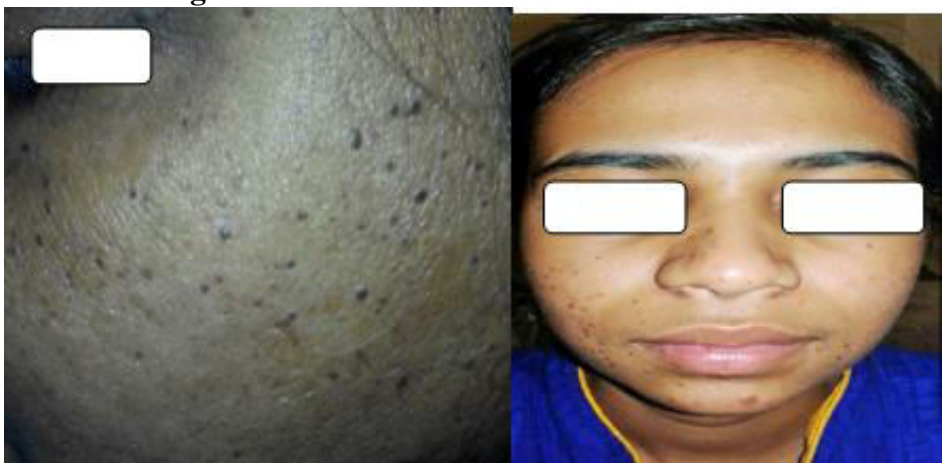


Figure- 7: PIH with freckles

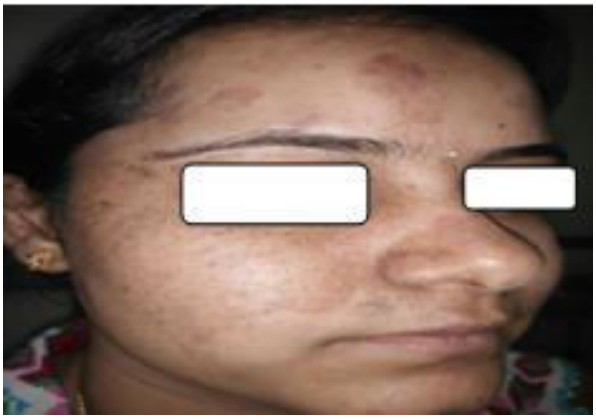


Figure- 8: Periocular pigmentation **Figure- 9: Lentigines**

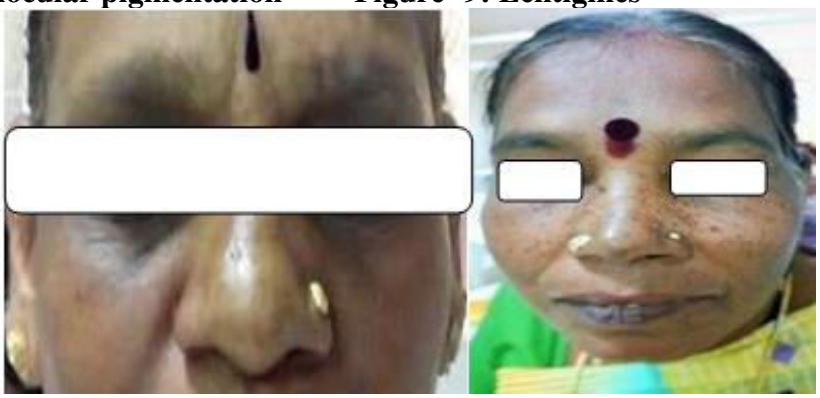
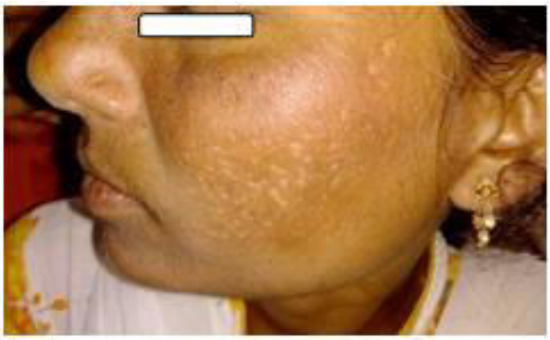


Figure- 10: Ochronosis



DISCUSSION

Pigmentary disorders were observed in 355 patients, of which 208(58.6%), belonged to 20-49 years of age. UV radiation (sunlight) and cosmetics were found to be the common precipitating factors. Melasma was the most common disorder followed by DPN's. Findings of this study were similar to the one conducted by Kavya M, Nataraj HV[8](2014) on facial hypermelanosis in which melasma was found to most common, precipitated by UV radiation with majority being in age groups of 31-40 years (41%).

Hassan I, Aleem S, Bhat YJ, Anwar P et al. (2015)[9] observed facial pigmentary disorders predominantly between 21-40 years (56.73%) with melasma being the most common disorder.

Melasma was seen in 112 patients. 80 (71.4%) of these are agricultural labourers with definite history of exacerbation of pigmentation following prolonged sun exposure. Similar data is reported by Yalamanchili R, ShastryV (2015)[12] wherein agricultural labourers (46.4%)

constituted the major group. The finding was attributed to high sun exposure, which is one of the major etiological factors of melasma. Ana Carolina Handel, Luciane Donida Bartoli Miot (2014)[10] in their review article emphasized sun exposure, pregnancy and drugs to be known triggering factors for melasma.

Sunlight was found to be the most important aggravating factor in 96 (85.71%) out of 112 patients with melasma. Findings of this study were similar to the study conducted by 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].

The most common pattern of melasma was centrofacial type in 68 (60.1%) patients, followed by malar type in 44 (39.2%) patients. Similar finding has been reported by S Kumar, Mahajan BB, Kamra N (2014)[11];however, Achar A, Rathi SK (2011)[14], Goh CL, Dlova CN (1999)[15] and Hassan I, Aleem S, Bhat YJ, Anwar P et al. (2015)[9] and Yalamanchili R, Shastry V (2015)[12] reported malar melasma as the most common type followed by centrofacial melasma.

Dermatosis Papulosa Nigra (DPNs) was observed in 101 patients with 82(81.18%) between 45 to 65 years with positive family history. The lesions initially appeared on the face and later in other regions. Niang SO, Kane A (2007)[16] also reported familial predisposition in 93.3% of patients.

Periorbital pigmentation was seen in 41 patients (11.5%). 23 (56.09%) belonged to the age group of 20 - 40 years. Majority of these patients (60.9%) were housewives with altered sleep pattern and stress. Similar figures were reported by Kavya M, Nataraj HV[8]. Hassan I, Aleem S, Bhat YJ, Anwar P et al. (2015)[9] reported inadequate sleep as a contributing factor in 71.4% of their study sample. Sheth PB, Shah HA, Dave JN (2014)[7]reported stresses as a factor for periorbital hypermelanosis in 71% of housewives.

In our study 38 patients had **Post inflammatory hyperpigmentation** of whom 28 patients had history of PIH secondary to acne and irritant contact dermatitis. This is similar to the studies by Hassan I, Aleem S, Bhat YJ, Anwar P, et al. (2015)[9] and Sarkar (2012)[5].

Freckles were seen in 8 patients of whom 3 were students and 5 agricultural laborers, probably due to increased sun exposure and lack of adequate sun protection.

Riehl's melanosis was found in 6 patients. All of them gave history of cosmetics application, fairness creams and steroid creams. Similar observations were made by Kavya M, Nataraj HV (2014) [8].

Unilateral Nevus of Ota was found in 3 patients with onset at birth. Two patients have both dermal and ocular involvement. This is similar to the study conducted by Sekar S, Kuruvila M, Pai HS (2008) [17].

In our study, 23 hypopigmented facial dermatoses, vitiligo was found in 12 patients, P. Alba in 6, Pityriasis Versicolor in 3 and Post inflammatory hypopigmentation in 2. Similarly, Hassan I, Aleem S, Bhat YJ, Anwar P et al (2015)[9] noted P.alba in 22, vitiligo in 19 and post inflammatory hypopigmentation in 8, in their study.

Soni B, Raghavendra KR et al (2015)[18] in a study of hypopigmented and depigmented facial lesions found 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.

In both the studies P.alba was the most common hypomelanotic facial disorder followed by vitiligo. P. alba primarily affects paediatric age groups. The relative low figure for P. alba in this study may therefore be due to the inclusion criterion of age above 10 years.

Vitiligo of progressive type was found in 12 patients in the 10 – 20 years age group. This is similar to findings of Shah H, Mehta A, Astik B (2008)[19] who reported vitiligo in 32.82% of 365 patients in the second decade of life.

Pityriasis alba was found in 6 patients. All of them were below the age of 15 years with history of atopy. Vinod S, Singh G et al. (2002)[20] noted atopy in 37 (17%) among a study population ranging from 8 months to 32 years.

CONCLUSION

In our study on facial pigmentary dermatoses, melasma was the highest, seen in 112 (31.5%) patients with UV radiation (sunlight) as a major aggravating factor. This study is an effort to fill this gap in the understanding of occurrence of facial dermatoses, which have a major bearing on physical and mental wellbeing, and, the Dermatological Quality of life (DLQI), among female clientele of this institution.

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