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Clinical Distribution of Facial Lesion among Females of Reproductive Age Group: A Tertiary Care Center Study in Central India

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Abstract
The profusion of pilosebaceous units with exaggeration of the sebaceous glands at some sites along with the large terminal hairs and large number of adnexal structures each surrounded by its own plexus of ramifying vascular network also influence the expression of skin disease on the face. All female patients, who presented with the primary symptoms, suggestive of facial dermatoses, attending the OPD were subjected to detailed history and clinical examination. During the study period, a total of 200 cases were selected randomly after taking their consent. Majority of the patients were asymptomatic 126 (63%) followed by complaints of itching in 20.5%, pain in 8.5% patients and burning sensation in 6% patients. In the present study, out of 200 patients, 74 patients had pigmentary disorders. The most common pigmentary condition on face was melasma 62% followed by 12% patients with periorbital melanosis. There were 5.5% cases each of freckles and seborrheic melanosis, 4% cases of lichen planus pigmentosus. One case each of Vitiligo, Riehls melanosis, solar melanosis, drug induced pigmentation and exogenous ochronosis was seen (1.3%).
Keywords: Facial skin disorders, melasma, females

Introduction

The attractiveness of the human body is an important issue in the fields of sociology, psychology, psychiatry and also in the field of dermatology. Face is a body part that is visible, imperfections of its skin is also visible, therefore its flawed appearance can be a source of misery [1].

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 to the auricle[2].

Apart from the visibility of facial skin and the major impact it has on the psychological well-being of the individual, one of the major reasons for the special nature of facial dermatoses is that, the 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[1].

The profusion of pilosebaceous units with exaggeration of the sebaceous glands at some sites along with the large terminal hairs and large number of adnexal structures each surrounded by its own plexus of ramifying vascular network also influence the expression of skin disease on the face[3].

The facial skin and hence the facial dermatoses are unique owing to the fact the facial

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skin is studded withthe largest and most numerous sebaceous glands, making it prone to development of dermatoses associatedwith pilosebaceous units[4].

The peculiar and unique nature of the facial skin and the various disorders that may present on it beckons adetailed study of it. Also, there are very few studies pertaining to facial skin disorders in females and thus aneed for this study.

Methodology

Source of data

Study source comprised of those seeking the outpatient services at the department of Dermatology, Index Medical College Hospital & Research Center, Indore MP.

Method of collection of data

All female patients, who presented with the primary symptoms, suggestive of facial dermatoses, attending the OPD were subjected to detailed history and clinical examination. During the study period, a total of 200 cases were selected randomly after taking their consent. Ethical clearance was obtained before commencing the study.

Inclusion criteria

Female patients aged more than 14 years presenting with facial skin lesions to the dermatology OPD at IMCHRC Indore were included in the study.

Exclusion criteria

1. Patients younger than 14 years of age.
2. Patients with congenital skin disorders involving face.
3. Patients with sole involvement of mucosa of oral cavity, lips and conjunctiva.
4. Facial lesions due to physical or chemical injury and burns.

Clinical study

In each case, a detailed history was elicited, including basic epidemiological data, symptoms, onset, duration and type of lesion, pre-disposing factors like sun exposure, drug intake, topical application of medicines and cosmetics etc., genetic and occupational factors and systemic diseases.

A thorough cutaneous, physical and systemic examination was carried out according to proforma taking into account the type of lesion, site and other associated features.

Laboratory study

Diagnosis was made primarily based on history and clinical examination. However, specific investigations helpful in diagnosing the condition or underlying systemic abnormalities were carried out wherever applicable. Investigations including biopsy, Wood‘s lamp, dermoscopy, KOH mount, Giemsa stain and Tzanck smear were carried out to aid in diagnosis. Complete hemogram, thyroid function tests, refractive error testing, androgen hormone panel amongst others were done to rule out systemic involvement in the primarily facial disorders.

The results of the study were tabulated, analysed and discussed. Simple proportions and percentages for comparing different variables like age, incidence etc., were used. Final outcome was expressed as the percentage of facial skin disorders among the study group as a whole and as the percentage of individual facial skin disorders.

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Results

Table 1: Age distribution

Age in years	No of cases	Percentage (%)
14 – 25	79	39.50
26-35	68	34.00
36-45	25	12.50
46-55	16	8.00
56-65	09	4.50
>65	03	1.50
Total	200	100

Two hundred patients satisfying the study criteria attending the outpatient department of Dermatology at Index medical college were enrolled in the study. The various observations noted are as follows.

In the present study it was observed that majority of patients belonged to the age group of 14-25years (39.50%), followed by 26-35years (34.00%), 36-45 years (12.50%), 46-55 years (8.00%) and 56-65 years(4.50%). Least incidence was in the age group of >65 years with 3 cases (1.50%).

Table 2: Occupational pattern

Occupation	No. of cases	Percentage (%)
Student	61	30.50
Daily wage worker	07	3.50
House wife	76	38.00
Agriculture	22	11.00
Office job	34	17.00
Total	200	100

In the present study 38% of the patients were housewives followed by students 30.5%, office workers 17%, agriculturists 11% and daily wage worker 3.5%,

Table 3: Place distribution

Place	No of cases	Percentage (%)
Urban	116	58.0
Rural	84	42.0
Total	200	100

In the present study majority of the patients belonged to urban area (58%) followed by rural area (42%).

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Table 4: Analysis of Complaints

Complaints	Number of conditions	Percentage (%)
Asymptomatic	126	63
Itching	41	20.5
Pain	17	8.5
Burning	16	8.0
Total	200	100

Majority of the patients were asymptomatic 126 (63%) followed by itching in 41(20.5%), pain in 17(8.5%) patients and burning sensation in 16(8.0%) patients.

Table 5: Onset of disease

Onset	Number of cases	Percentage (%)
Insidious	175	87.5
Sudden	25	12.5
Total	200	100

In the present study, 175(87.5%) patients presented with insidious onset and only 25(12.5%) patients hadsudden onset of disease.

Table 6: Duration of symptoms

	Number of Cases	Percentage (%)
<1 month	25	12.5
1 month-1year	118	59.0
>1year	57	28.5
	200	100

In our study, majority of the patients i.e. 118(59%) reported a duration of 1 month to 1 year, followed by 57 patients (28.5%) reporting a duration of more than 01 year and 25 patients (12.5%) had the disorder for less than 1 month duration.

Table 7: Distribution of lesions

	No. of cases	Percentage (%)
Conditions with only facial involvement	178	89
Conditions with extra facial involvement	22	11
Total	200	100

In our study 178 patients (89%) had only face involvement and 22 patients (11%) had extra facial involvement.

Table 8: Facial distribution

	Number of cases	Percentage (%)
Unilateral	41	20.5
Bilateral	159	79.5
Total	200	100

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Out of 200 patients, 159 (79.5%) had bilateral face involvement and 41 (20.5%) had unilateral face involvement.

Table 9: Symmetry of the lesions

Bilateral	Number of cases	Percentage (%)
Symmetrical	50	31.5
Asymmetrical	109	68.5
Total	159	100

Out of 200 patients, 159 had bilateral lesions. In 159 patients who had bilateral lesions 109(68.5%) had asymmetrical distribution and 50 (31.5%) had symmetrical distribution.

Table 10: Incidence of pigmentary disorders

Pigmentary disorders (n=74)	Number of cases	Percentage (%)
Melasma	46	62.16
Perorbital melanoses	9	12.16
Freckles	4	5.4
Seborrheic melanoses	4	5.4
Lichen planus pigmentosus	3	4.0
Riehls melanoses	1	1.3
Post chikangunya pigmentation	1	1.3
Exogenous Ochronoses	1	1.3
Solar melanoses	1	1.3
Drug induced pigmentation	1	1.3
Post inflammatory hypopigmentation	2	2.7
Vitiligo	1	1.3
	74	100

In the present study, out of 200 patients, 74 patients had pigmentary disorders. The most common pigmentary condition on face was melasma (62%) with 46 patients followed by 9 (12%) patients withperiorbital melanosis. There were 04 (5%) cases each of freckles and seborrheic melanosis. Other cases of lichen planus pigmentosus ,vitiligo, post inflammatory depigmentation, Riehls melanosis, solar melanosis, drug induced pigmentation and exogenous ochronosis were also seen.

Table 11: Incidence of Infections on face

Infections	Total	Percentage (%)
Herpes simplex infection	5	22.7
Hansens disease	4	18.18
Tinea faciei	3	13.6
Common wart	2	9.0
Herpes zoster	2	9.0
Molluscum contagiosum	2	9.0
Filiform wart	1	4.5

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Varicella	1	4.5
Plane wart	1	4.5
Furuncle	1	4.5
Total	22	100

Out of 200 patients, 22 patients had infectious disorders on face. Most common infections were herpes simplex infection (22%) followed by Hansens disease (18.18%) and tinea faciei (13.6%) cases. Common wart, Herpes zoster and molluscum contagiosum were present in 9% cases each followed by Plane wart, varicella, filiform wart, furuncle were present in 4.5% cases each.

Discussion

Among the 200 patients, majority belonged to age group of 14-25 (39.5%) years and 26-35 (34%) years. This is in concordance with the study conducted by Hassan *et al*.[1]in which, 56.73% patients were between the age group of 21-40 years. These findings are also similar to those in the review article of Perez-Bernal *et al*.[6],where it has been quoted that facial hypermelanosis is common in middle-aged women. This preponderance may be due to endogenous factors such as hormones and exogenous factors like cosmetics and perfumes.

In this study, 74 patients with pigmentary disorders 46 cases were of melasma in our study. According to Tamega *et al*.[7]48.5% of their study population with melasma had history of exacerbation of pigmentation on sun exposure, which is comparable to our study.

One patient of Riehl's melanosis, 1 patient of exogenous ochronosis, 1 patient of drug induced pigmentation, 3 cases each of freckles and LPP, also reported exacerbation of pigmentation on exposure to sunlight. Perez-Bernal *et al*.[6]and Hassan *et al*.[5]have proposed exposure to solar radiation as an important exogenous factor in the exacerbation of facial hypermelanosis which is in concordance with our study.

Among 74 patients, pigmentation was localized in 70 (95%) of cases and 4 (5%) cases had diffuse pigmentation.

Melasma constituted the most common facial melanosis in the present study forming 62% of all cases which is in concordance with a study by Hassan *et al*.[6].The youngest patient in our study was a 24-year-old female and oldest patient was a 68-year-old female. According to observations made by Achar *et al*.[8],the age of melasma patients ranged from 14 to 55 years. This presentation in our study can be explained, based on the geographical variation and local cultural influences.

The most common pattern of melasma in our study was malar type in 72.72%, followed by centrofacial type seen in 27.27% patients, which was in concordance with the observations made by Hassan *et al*.[5]and Goh *et al*.[9].

In contrast, Achar *et al*.[8]in his study reported centrofacial (54.44%) pattern as the most common type followed by malar pattern (43.26%) of melasma. A positive family history was present in 12% in contrast to 20.54% reported by Hassan *et al*.[5].

In our study, about 40% patients had significant sun exposure, which they felt was an aggravating factor. Achar *et al*.[8]in his study reported that 55.12% had sun exposure related aggravation, which was almost similar to our study.

Appearance of melasma during pregnancy was observed in 18% patients which is

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comparable to Hassan *et al*.[5](16%) whereas Tamega *et al*.[7]observed 36.4% pregnant females with melasma in their study.

Hypothyroidism was seen in four patients (6.06%) which was in concordance with Achar *et al*.[8], who observed 6.4% of melasma patients with hypothyroidism.

Out of 46 patients of melasma, 3% were on OCP'S for a mean duration of 2 years in contrast to 6% in Hassan *et al*.[5].This may be explained as less usage of OCP'S or false reporting by patients.

Under Wood's lamp examination, we found that the epidermal type was most common. This was in accordance to earlier studies by Goh *et al*.[9],Sanchez *et al*.[10]and Vazquez *et al*.[11].We observed 1%patient with Riehl's melanosis, sensitizing agent was cosmetics. Hassan *et al*.[5]in his study on facial melanoses reported 5.7% cases of Riehl's melanosis.

In our study, periorbital melanosis constituted 12 % of the cases of facial melanoses.

Most cases were seen in 2ndand3rd decade of life. In our study, 8.33% patients had a family history where as Sheth *et al*.[12]reported 42.2% patients with a positive family history.

LPP, a rare variant of LP, was diagnosed in three patients (4%) in our study. Hassan *et al*.[5], Kanwar *et al*.[13]reported 4.1% incidence of LPP which was in concordance with the present study. Diffuse pigmentation was seen in 3 cases which was similar to observation made by Kanwar *et al*.[13].

In our study, out of 74 patients with facial melanoses, 04 (5.4%) had freckles and had early age of onset.They were commoner in fairer people.

Drug induced pigmentation was present in 1 patient (1.3%) compared to 6(2.88%) in Hassan *etal*.,[5]moreprominent on sun exposed areas who was on MB-MDT probably due to clofazimine.

This difference may be explained due to less number of pigmentary disorders in our study. We had one caseof vitiligo, one of acrofacial vitiligo and one of segmental type.

Two cases of post inflammatory pigmentation were seen secondary to DLE and contact dermatitis. In our study, out of 200 patients, 22 (11%) patients had infections localized to the face.

Most common infection seen in our study was HSV infection (22.7%) and Hansens disease (18.18%), followed by tinea faciei (13.6%), molluscum contagiosum, common wart and herpes zoster constituting 9%,varicella and furuncle 1 case each (4.5%).

In our study HSV infection was common accounting 22.7% cases in infections. In that 60% cases were of primary HSV infection and 40% cases were of recurrent HSV infection. One casereported more than 2 episodes per year which is in concordance with the study done by Embil JA *et al*.[14]. In our study leprosy cases accounted for 18% in infections, of them 75% cases were of borderline tuberculoid leprosy and 25% case of lepromatous leprosy. One patient was in type 1 reaction. This increased incidence can be explained by the geographic variations in incidence.

In our study, the most common site involved in dermatophyte infection was cheeks and mandible (80%), followed by forehead and nose (20%). This is in concordance to the study by Noguchi *et al*.[15]in which cheeks (52.5%) was most common site involved followed by mandible (15%).

Two cases (9%) had molluscum contagiosum. One patient had giant molluscum

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contagiosum and extensive lesions with HIV positive status. All the cases were in 3rd and 4th decade.

In our study warts was present in 18%, of which verruca vulgaris was present in 2 (9%).

Two patients were diagnosed with herpes zoster on face, of which one (50%) patient had involvement of ophthalmic division and one (50%) patient had involvement of maxillary division. These findings were similar to the study conducted by Talwar and Srivastava[16].

Conclusion

Though majority of facial dermatoses are benign they cause a great psychological impact,especially on female patients. Further, few conditions on face such as acne, lentigines, hirsutism, angiofibroma may be a marker for internal diseases. The subject is complex, as the term facial skin disorder includes heterogeneous group of disorders; but no classification exists and the opinions vary regarding the conditions to be included under facial dermatoses.

These facial dermatoses are frequently encountered in the dermatologic OPD, thus an attempt of comprehensive study of facial dermatoses in females has been made here. A study compiled in one department, can never reflect in full measure, the true magnitude of the problem. However the study does serve, to give a perspective of the problem and to gain insight into the subject.

To conclude, a study with a wider and larger population is necessary to understand the epidemiology of facial dermatoses.

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