

A CLINICAL STUDY OF GERIATRIC DERMATOSIS AT A TERTIARY CARE CENTRE IN PIMPRI-CHINCHWAD MUNICIPAL CORPORATION AREA OF MAHARASHTRA

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ABSTRACT

BACKGROUND

Advances in medical care and improved social conditions have increased the life expectancy, leading to an increase in geriatric population.

Aims and Objectives- This study was done with an aim to know the prevalence of various physiological and pathological conditions in the skin of elderly people.

MATERIALS AND METHODS

This cross-sectional study was carried out on 300 patients aged 60 years or above, attending the outpatient department of our tertiary care centre. There were 167 males and 133 females with male-to-female ratio being 1.26: 1.69% patients were in the age group of 60 - 69 years. 86.7% patients had one or more physiological or degenerative cutaneous condition.

RESULTS

46% cases presented with one or more infections and/or infestations with fungal infections being the commonest (20.33%). Amongst the non-infectious conditions, benign skin tumours were most frequently observed (27%) followed by eczemas (17.7%). Cutaneous malignancies were seen in 4 patients in our study.

CONCLUSION

Geriatrics constitutes an important group of the total population having a varied spectrum of skin diseases that cause considerable morbidity in them. Further studies are required in this field to assist policy makers to formulate programs and provide better healthcare for the elderly.

KEYWORDS

Geriatric, Dermatitis, Cutaneous Manifestations, Senile, Skin Changes.

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BACKGROUND

The process of progressive decrease in maximum functioning and reserve capacity of all organs in the body including skin is termed ageing.¹

With ageing, the ability to react adaptively to the challenges from external and internal environment reduces.

Government of India adopted "National Policy on Older Persons" in January 1999, which defines elderly as a person who is of 60 years of age or above.²

Life expectancy has been prolonged due to research and development in modern medicine; hence, cutaneous disorders in this age group have become common. At least 7% of physician visits are prompted exclusively by skin disorders.¹

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Skin Ageing is affected by Two Phenomena-

1. Intrinsic or chronological ageing- due to passage of time.
2. Photoageing- due to sun exposure.

Psychosocial Factors also Influence this Process

Intrinsic ageing is a universal and inevitable change attributed to passage of time alone. Photoageing includes changes due to chronic sun exposure superimposed on intrinsic changes. They are neither universal nor inevitable.³ Factors affecting extrinsic ageing include ultraviolet light exposure, diet, alcohol, smoking, drugs and environmental pollutants. As per the free radical theory, ageing results from accumulation of excessive reactive oxygen species generated by oxidative metabolism, which result in cellular damage.⁴

Ageing leads to a decline in several functions of the skin including barrier function, sweat and sebum production, epidermal hydration, wound healing, thermal regulation, immune responsiveness and DNA repair. The impact of such changes may vary from minor cosmetic concern to a serious life-threatening condition.⁵ Irrespective of their severity, most of these changes affect the quality of life of the elderly individual. The present study was conducted in 300 individuals above 60 years of age, which gives an insight into various dermatological conditions of the elderly, their effect on the quality of life and their association with occupation and systemic illnesses.

MATERIALS AND METHODS

This cross-sectional study was carried out from July 2015 to September 2017 on 300 patients who were 60 years or older, attending the outpatient department of our referral tertiary care hospital. The scientific and ethical clearance was obtained from the institutional review, scientific and ethical committee.

The purpose of the study was explained to the patients and/or his/her relatives and a written informed consent was taken after assuring them about the confidentiality of the data. Detailed history with reference to demographic details, family history of similar complaints, duration of various symptoms and evolution of lesions and the clinical findings were recorded in a standard proforma. Necessary investigations were done in specific cases for confirmation of diagnosis.

The data was entered and analysed using Statistical Package for Social Sciences (SPSS) Version 24 software package (SPSS Inc., IBM, and Chicago, IL, USA). Descriptive statistics in the form of numbers and percentages were calculated.

RESULTS

Out of total 300 patients, there were 55.67% males and 44.33% females with male-to-female ratio being 1.26: 1. Maximum number (69%) of patients in our study belonged to the age group 60 - 69 years (Table 3.1).

28% were involved in agricultural work and 45.9% females were housewives. 86.67% patients had one or more physiological and degenerative skin changes, the commonest being wrinkling (78%), highlighting the dramatic effect of sun exposure on skin followed by senile xerosis (31.67%) and IGH (14%) (Table 3.2 and 3.3).

46% cases in our study presented with one or more infections and/or infestations with fungal infections being the commonest (20.33%) followed by 9.67% viral and 5% bacterial skin infections. Scabies was observed in 5.33% patients and leprosy in 2.67% patients (Table 3.2 and 3.4). The most common fungal infection was mucocutaneous candidiasis 6.33% followed by tinea cruris (5.3%), tinea corporis (4.7%) and pityriasis versicolor (2.3%). There was a single case of chromoblastomycosis in a 73-year-old female. Herpes zoster, herpes simplex and verruca were seen in 8 (2.67%) patients each. Molluscum contagiosum was seen in 3 patients and PHN in 2 patients. The most frequent pyoderms in our study were folliculitis and erysipelas 1.3% each followed by cellulitis 1% and furunculosis and paronychia 0.67% each. There was a 5.33% prevalence of scabies and 2.67% of Hansen’s disease.

67% cases had one or more eczemas, the commonest being contact dermatitis (5.33%) followed by phytophotodermatitis (3.33%). 3% cases had atopic dermatitis. 5 out of 11 cases of contact dermatitis were seen in housewives and industrial workers (Table 3.5).

6% patients had pigmentary disorders. Vitiligo (4.67%) was the commonest followed by macular amyloidosis (0.67%). PPD and periorbital melanosis were seen in 1 patient each, both females (Table 3.5).

9% patients in our study showed papulosquamous disorders, out of which palmoplantar keratoderma (4.33%) was the commonest followed by psoriasis (3.33%) and lichen

planus (1.33%). 8 out of 10 patients of psoriasis were males (Table 3.5).

Blistering disorders were seen in 10 (3.33%) cases in our study. Bullous pemphigoid and pemphigus vulgaris were seen in 4 (1.33%) patients each followed by pemphigus foliaceus in 2 (0.67%) patients (Table 3.5).

Neurocutaneous disorders were seen in 5.67% patients in our study. LSC was the commonest (3.67%) followed by prurigo nodularis (1.67%). LSA was seen in one 63-year-old male (Table 3.5). Benign skin tumours were observed in 81 (27%) patients with most patients having more than one tumour.

Cherry angiomas were the commonest (9%) followed by skin tags (7%) and seborrheic keratosis (6.33%). Actinic keratosis was seen in 1 male patient (Table 3.5).

4 cases of cutaneous malignancies were found in our study. There was a single case of SCC in situ and pigmented BCC each. Zosteriform metastasis of Ca breast was seen in a 76-year-old male patient. Another rare case of carcinoma en cuirasse was observed in a 62-year-old female (Table 3.5).

Age (In Years)	Male	Female	Total	Total %
60-69	100	107	207	69
70-79	58	23	81	27
80 and above	9	3	12	4
Total	167	133	300	100

Table 3.1. Age and Sex-Wise Distribution of Patients

Condition	Males	Females	Total	Total %
Physiological and degenerative changes	148	112	260	86.67
Infections and infestations	78	60	138	46
Eczema	30	23	53	17.67
Pigmentary disorders	6	12	18	6
Papulosquamous disorders	18	9	27	9
Vesiculobullous disorders	6	4	10	3.33
Neurocutaneous disorders	14	3	17	5.67
Benign tumours	46	35	81	27
Cutaneous malignancies	2	2	4	1.33
Miscellaneous	15	9	24	8

Table 3.2. Spectrum of Cutaneous Manifestations

Condition	Males	Females	Total	Total %
Wrinkles	141	93	234	78
Senile xerosis	57	38	95	31.67
IGH	23	19	42	14
Senile comedones	13	6	19	6.33
Senile purpura	10	13	23	7.67
Solar elastosis	14	3	17	5.67

Table 3.3. Spectrum of Physiological and Degenerative Changes

Condition	Males	Females	Total	Total%
Fungal infections	39	31	70	20.33
Bacterial infections	9	6	15	5
Viral infections	16	13	29	9.67
Scabies	9	7	16	5.33
Leprosy	5	3	8	2.67

Table 3.4. Spectrum of Infectious Dermatoses

Condition	Males	Females	Total	Total%
Seborrheic keratosis	15	4	19	6.33
Solar lentiginos	1	3	4	1.33
Cherry angiomas	16	11	27	9
Skin tags	8	13	21	7
Dermatosis papulosa nigra (DPN)	8	7	15	5
Actinic keratosis	1	0	1	0.33
Contact dermatitis	3	13	16	5.33
Stasis dermatitis	4	1	5	1.67
Seborrheic dermatitis	3	1	4	1.33
Atopic dermatitis	6	3	9	3
Phytophotodermatitis	7	3	10	3.33
Asteatotic eczema	4	1	5	1.67
Miscellaneous eczema	5	1	6	2
Vitiligo	5	9	14	4.67
Pigmented purpuric dermatosis (PPD)	0	1	1	0.33
Periorbital melanosis	0	1	1	0.33
Macular amyloidosis	1	1	2	0.67
Psoriasis	8	2	10	3.33
Lichen planus	1	3	4	1.33
PPK	9	4	13	4.33
Bullous pemphigoid	3	1	4	1.33
Pemphigus vulgaris	2	2	4	1.33
Pemphigus foliaceus	1	1	2	0.67
Lichen simplex chronicus (LSC)	9	2	11	3.67
Prurigo nodularis	4	1	5	1.67
Lichen sclerosus et atrophicus (LSA)	1	0	1	0.33

Table 3.5. Spectrum of Non-Infectious Dermatoses

DISCUSSION

Out of total 300 patients, 167 (55.67%) were males and 133 (44.33%) were females with male-to-female ratio being 1.26:1. Chopra et al reported a similar male-to-female ratio of 1.3:1 in a similar study conducted in GMC Patiala in 1996.⁶ Jindal et al reported a higher male-to-female ratio of 2:1 in a similar study conducted in Uttarakhand in 2016.⁷

The age-wise distribution in our study showed 69% patients in the age group of 60 - 69 years, 27% in 70 - 79 years and 4% in ≥ 80 years. These findings were similar to the study done by Jindal et al (2016) which showed 69.6% patients in the age group of 60 - 69 years, 25.8% in 70 - 79 years and 4.5% in ≥ 80 years.⁷

Wrinkles were the commonest finding in our study (78%). Raveendra L (2014) reported 88%, Pavithra S (2010) reported 99.3% and Grover S (2009) reported 95.5% prevalence of wrinkling in their studies.^{8,9,10} The disparity appears, because our study includes cases between 60 - 65 years also.

Senile xerosis was the next common finding in our study (31.67%). Our findings were consistent with the study done by Sayal et al, where he reported a prevalence of 28%.¹¹ Much lower prevalence of 9.4% and 6.6% was reported by Talukdar K (2016) and Pavithra L (2010) in their respective studies.^{12,9} Higher prevalence of 93% and 85.5% was reported by Raveendra L (2014) and Grover S (2009) respectively.^{8,10}

The prevalence of Idiopathic Guttate Hypomelanosis in our study was 14% (n= 42). Similar prevalence was observed by Talukdar K (22.5%), Patange SV (24.5%) and Beauregard

S (25.4%).^{12,13} Raveendra L reported a higher prevalence of 33% in his study.³⁹

Senile comedones were observed in 6.3% patients in our study, which was similar to that reported by Grover S (6.5%) in his study conducted in 2009 and Pavithra S (8.5%) in 2010.^{10,9} Raveendra L (2014) reported a 28% prevalence, which is higher than our study.⁸

Senile purpura was seen in 7.67% cases in our study. Our findings were consistent with similar studies done by Talukdar K (2016), Raveendra L (2014) and Pavithra S (2010) who observed a prevalence of 7.8%, 7% and 4.1% respectively.^{12,8,9}

Solar elastosis was observed in 5.67% (n= 17) cases in our study. 88.2% (n= 15) cases were farmers and construction workers who were habitually exposed to UV radiation.

46% cases in our study presented with one or more infection and/ or infestations. Similar prevalence of 43.5% was found in the study conducted by Grover S (2009).¹⁰

The most commonly observed infection in our study was fungal infections (20.33%) which was consistent with the findings of Talukdar K (2016), Jindal R (2016) and Pavithra S (2010) who reported 16.9%, 18% and 20.7% prevalence respectively.^{12,7,9} Various other studies have reported prevalence ranging from 8.2% to 30.8%.^{14,15,10,13} Higher humidity in our region is a probable reason for higher prevalence in our study.

The most frequently encountered fungal infection in our study was mucocutaneous candidiasis 6.33%, which was slightly higher than those reported by Talukdar K (3.3%) and Raveendra L (2.5%).^{12,8} This was followed by tinea cruris (5.3%), tinea corporis (4.7%) and pityriasis versicolor (2.3%). We encountered a single case of deep fungal infection, i.e. chromoblastomycosis in a 73-year-old female.

In our study, viral infections were observed in 9.67% which was comparable with the findings of Talukdar K (7.78%), Raveendra L (8%) and Sayal et al (9.3%).^{12,8,11}

Herpes zoster, herpes simplex and verruca were seen in 8 (2.67%) patients each. Molluscum were seen in 3 patients and post herpetic neuralgia (PHN) in 2 patients (0.67%) in our study, which were similar to the findings of Talukdar K (2016) who reported 1.9% prevalence of PHN.¹²

There was a 5% prevalence of pyoderma in our study. Similar prevalence was reported by Raveendra L (4%), Pavithra S (3.9%) and Pragma A Nair (2.84%).^{8,9,16} Talukdar K reported a higher prevalence of 8.89% in his study.¹²

The most frequent pyoderma in our study were folliculitis and erysipelas 1.3% each, followed by cellulitis 1% and furunculosis and paronychia 0.67% each.

Scabies occurred with a frequency of 5.33% in our study. Jindal R found 2.5% prevalence, Talukdar K found 4.4% and Raveendra L found 3% prevalence in their studies.^{7,12,8} Slightly higher prevalence in our study may be due to poor personal hygiene and environmental factors like overcrowding.

There was a 2.67% prevalence of Hansen's disease in our study. Our findings were consistent with those of Talukdar K (2.5%).¹² Sayal et al (1998) reported a higher prevalence of 8.6% and Jindal R (2016) reported a lower prevalence (1.6%) than our study.^{11,7} Variations in the prevalence in different states may be due to variable host and environmental factors.

A total of 17.67% patients in our study showed one or more eczematous conditions, out of which 10% were males and 7.67% were females. Raveendra L showed a much higher prevalence of 31% in his study.⁸ Grover et al reported 24.7% cases of eczema and Chopra et al reported 2.5%.^{10,6}

Contact dermatitis (5.33%) was the commonest eczema observed in our study, which was comparable with Jindal R (7.3%).⁷ Out of 11 cases of contact dermatitis, 5 (45.5%) were seen in housewives and industrial workers.

This was followed by phytophotodermatitis (3.33%). Talukdar K reported a slightly higher prevalence of 5.6%.¹² Out of 10 cases of phytophotodermatitis in our study, 6 (60%) were agricultural workers.

Atopic dermatitis was observed in 3% cases. Stasis dermatitis and asteatotic eczema were found with equal frequencies of 1.67% in our study followed by seborrheic dermatitis 1.33%. A higher percentage of stasis dermatitis (4.2%) was reported by Talukdar K.¹²

A total of 6% patients in our study had pigmentary disorders, which was comparable with Pavithra S who reported a 5.8% prevalence.⁹ Raveendra L reported a higher prevalence of 14%.⁸

The most common pigmentary disorder in our study was vitiligo (4.67%) comparable with Talukdar K (3.1%).¹² Raveendra L and Patange SV reported a higher prevalence of 8% and 19% respectively.^{8,13}

We found macular amyloidosis in 2 patients and pigmented purpuric dermatosis and periorbital melanosis in 1 patient each, both females. Such lesions were not noted in other studies for comparison.

A total of 27 (9%) patients in our study showed papulosquamous disorders, which was in concordance with Talukdar K (7.8%).¹²

There was 3.33% incidence of psoriasis in our study. It was comparable to that of Talukdar K (4.2%) and lower as compared to that of Raveendra L (7%).^{12,8}

We observed 1.33% prevalence of lichen planus, which was lower as compared to Talukdar K (3.6%) and Raveendra L (5%).^{12,8}

Palmoplantar keratoderms due to other causes was seen in 13 (4.3%) patients in our study, out of which 9 were males and 3 were females.

A total of 10 patients (3.33%) out of 300 cases had a blistering disorder, out of which there were 4 cases (1.33%) of bullous pemphigoid and pemphigus vulgaris each and 2 cases (0.67%) of pemphigus foliaceus. 3 out of 4 cases of bullous pemphigoid were males. Pavithra S (2010) reported a similar prevalence of 4.4% bullous disorders.⁹ Talukdar K (2016) observed 2.8% of bullous disorders in his study, out of which bullous pemphigoid was seen in 2.2% and pemphigus vulgaris in 0.6% cases.¹² Raveendra L observed 1.5% cases of bullous pemphigoid.⁸

We observed neurocutaneous disorders in 5.67% patients in our study, out of which the most frequent was lichen simplex chronicus (3.67%) followed by prurigo nodularis (1.67%) and lichen sclerosus et atrophicus (0.33%).

Higher prevalence of LSC, 8.6% and 10% was reported by Talukdar K and Raveendra L respectively.^{12, 8} Talukdar K reported 2.8% cases of prurigo nodularis.¹² Pavithra S reported a single case (0.2%) of lichen sclerosus et atrophicus, similar to our study.⁹

Out of 300 cases 81 (27%) had one or more benign skin tumours, which was much lower than that reported by Grover S (74%).¹⁰

Most common benign tumour in our study was cherry angioma (9%), which was lower than that found by Pavithra S (20.9%) and Raveendra L (37%).^{9,8} A much higher prevalence of 63% was reported by Grover S.¹⁰

Skin tags were observed in 7% cases in our study, which is lower than Raveendra L (19.5%) and Pavithra S (24.6%).^{8,9}

This was followed by seborrheic keratosis (6.33%) and DPNs (5%). Solar lentigines were seen in 1.33% cases, which is lower than most western studies as fair skin is more prone to solar lentigines.

A single case of actinic keratosis was reported in a 65-year-old male farmer.

A total of 4 patients (1.33%) in our study were seen to have cutaneous malignancies, which was in concordance with that found by Talukdar K (1.2%).¹² Gilchrest et al reported 4.4% incidence of cutaneous malignancies.¹⁷

We encountered a single case each of Bowen's disease and pigmented basal cell carcinoma. Rare case of zosteriform metastasis of Ca breast was noted in a 76-year-old male patient. Another rare case of carcinoma en cuirasse was observed in a 62-year-old female.

The rate of precancerous and cancerous lesions is much lower than that reported in western studies, probably because of less UV induced damage in pigmented skin as compared to the type I and II skin of western population.

CONCLUSION

Geriatrics constitutes an important group of the total population having a varied spectrum of cutaneous conditions which cause considerable morbidity, particularly when associated with systemic illnesses. The long-term effect of exterior causes such as ultraviolet radiation, chemical irritants, temperature, humidity, pathogens etc. are compounded for those who have to endure longer.

More knowledge in this area is essential to assist policy makers to formulate programs and to raise public awareness.

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