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## A clinical study spectrum of various cutaneous manifestation in geriatric age group in rural patient

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**Abstract**---To study the demographic profile of the geriatric age group patients among the rural population in kanchipuram district who are presenting to the Dermatology department.

Keywords---clinical study, spectrum, geriatric, rural patien.

#### Introduction

Study design: Cross Sectional observational study

**Study area:** Department of Dermatology Venereology and Leprosy of Sri Sathya Sai Medical College and Hospital

Study period:16 months-

#### **Study Subjects**

The study will be carried out on 300 patients (both males and females) aged above 60 years who will be coming for consultation to the outpatient department in Sri Sathya Sai Medical College and Hospital are included.

Ethical Issues: No ethical issues concerned with this research

**Participants Recruitment Process:** I will request consent from the people in the study population by verbally explaining the study and handing over the patient information sheet to the patient. Post acceptance I will get a signature from the patient in the consent form which will be considered as the formal recruitment of the volunteer

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#### **Inclusion Criteria**

Patients aged above 60 years

Both male and female genders

Patients with systemic diseases

#### **Exclusion Criteria**

Patients below 60 years of age

Moribund patients

Patient not willing for the study

#### Methods

Detailed history will be taken and a general, systemic and cutaneous examination will be carried out as per the proforma .All cutaneous and mucosal lesions present will be recorded.Relevant investiga-tions: Hemogram, diabetic profile, liver function test, renal function test, ECG, biochemical test and skin biopsy will be performed whenever required.Skin scrapings,nail clipping for fungus , Tzanck smears, KOH mounting ad skin biopsies for the lesions were done wherever required.Finally, skin changes observed during the examination and confirmed by the relevant investigation were classi-fied as physiological and pathological changes and enrolled in the master chart as per their findings and the results were analyzed.

#### Discussion

The current study is a cross sectional observational type of study undertaken in a hospital background in a rural area. The study included 300 consecutive patients of both sexes above the age group of 65 yrs fulfilling the gediatric criteria who presented in the dermatology out-patient department of our sathya sai medical college. The study subjects were completely evaluated for physiological and pathological skin changes using the already formatted proforma and the subjects datas were recorded in the same after obtaining the consent.

#### 1. Age distribution

- Majority of the patients in the present study were in the age group of 60-70 years, their number being 200, out of the total 300 patients enrolled in the study (66.7%). The oldest patient recruited in the study was 91 yrs old .
- In a study done by Patange V S et al[87], there were 132 (66%) in the age group of 55-64 years, of the total 200 patients studied.
- In a study done by Yalcin B e al[44], there were 3103 (75.7%) in the age group of 65-74 years age group of the total 4099 patients studied.

- In a study done by Sahoo A et al[90], they had included patients above the age of 55 years in their study of 200 patients. Of these, 155 (77.5%) were in the age group of below 70 years and 45 (22.5%) in the age group above 70 years.
- In a study done by Pavithra S et al[91], age group of 65-69 years constituted maximum (57.9%) number of geriatric patients.
- In a study done by Darjani A et al[92], most of the patients (57%) were in the age group 60-69 years of the 440 geriatric patients.
- In a study done by Beauregard S et al[93], there were 24 (35.3%) patients in the age group of 80-91 among the total of 68 subjects.

#### 2. Sex distribution

- Out of the total of 300 patients studied, the number of male patients was 169 (56.33%) and female patients were 131 (43.67%)
- The male : female ratio was 1.2:1 which was similar to few other studies.
- In a study done by Chopra et al[86], out of 214 patients, 126 (56%) were males and 88 (42%) were females, the male to female ratio was 1.43: 1
- The study by Patange V S et al, there were also more male patients 126 (63%) than the female patients 74 (37%) out of the total sample of 200 patients. The male to female ratio was 1.70: 1
- The study by Yalcin et al[44] reports 2268 (55.3%) male patients and 1831 (44.7%) female patients out of total 4099 patients. The male to female ratio was 1.24: 1
- The study done by Pavithra S et al[91], males (64.7%) outnumbered females (35.3%). The male to female ratio was 1.83: 1
- In a study done by Darjani A et al, 232 patients were males (52.7%) and the others were females (47.3%) of the 440 geriatric patients. the male to female ratio was 1.12: 1

3. Associated systemic diseases:

- In this study, among 300 patients about 46% had more than one systemic illness which is quite higher than the association in other geriatric studies. Diabe-tes was the commonest association seen in 138 cases (46.0%), followed by hy-pertension (26.33%).
- Other associated disease commonly encountered were bronchial aasthma in 6% followed by kidney diseases in 5.67%

# • In a study by Priya Cinna and Thappa[63], Hypertension (25.5%) and Diabe-tes (28.9%) were the most common correlated conditions. This is similar to our

- Beauregard and Gilchrest[93] identified that 27 patients (89.7%) to have ma-jor medical illnesses. Out of this group 88.2% were on medication.
- Patange and Fernandez[87] found associated systemic ailments in 30% of their cases.
- 4. Physiological skin manifestations

In our study, the following were considered as physiological changes- Xerosis, wrinkling, senile lentigenes, senile comedones, cherry angiomas, idiopathic guttate hypomelanosis, seborrheic keratosis, dermatosis papulosa nigra.

In our study, prevelance of physiological manifestations were as follows: wrinkling (45%), dermatosis papulosa nigricans (40.67%), idiopathic guttate hypomelanosis (43.67%), cherry angiomas (38%), senile comedones (20.33%), senile lentigenes (12%), Seborrheic kera-tosis (45.3%) and genaralized pruritus (39%)

Sebrrheic keratosis was the most common finding in 136 patients following which wrinkling was present in 134 patients.

In the study done by Chopra A et al[86], the results were as follows: wrinkling 110 (51.7%), xerosis 108 (50.8%), seborrhoeic keratosis 52 (24.2%), lentigenes 28 (13.1%), and DPN 7 (7.2%) of the 214 patients.

In the study done by Sahoo A et al[90], xerosis (12.5%) was the most common finding among the physiological manifestations.

In the study done by Pavithra et al[91], amongst the geriatric dermatoses a high per-centage of patients had wrinkling of skin (99.3%), followed by graying of hair (96.8%) which outnumbered all other findings.

In the study done by Darjani A et al[92], xerosis accounted for only 11.6% of the 59 patients. These differences could possibly be due to the variations in the lifestyle and geo-graphical factors in the populations that were studied.

In comparision with the study done by Priya Cinna and Thappa[63] the finding of wrinkling was reported 100% in their study.

In our study generalised pruritus was seen in 118 cases (39.3%). This is split as 66 males (22%) and 52 females (17.3%). Droller [95]noticed generalised pruritus in 29.7% males and 29.2% females in his study. Patange and Fernandez[87] observed pruritus in 32 patients which 78.5.

Droller[95] noticed generalised pruritus in 29.7% males and 29.2% females.70 Priya Cinna and Thappa[63] found in 49.6%, of whom 29.8% were associated with Xerosis.

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study.

#### 5. Pathological skin changes

The pathological changes were classified into infections and infestations, papulosquamous disorders, vesiculobullous disorders, and miscellaneous conditions.

5.a. Eczematous Ski N Conditions:

In this study the overall incidence of eczematous conditions was 30.77% which is comparable with Priya Cinna and Thappa[63] with 24.2%

The incidence were allergic contact dermatitis with 6.67% in 20 patients, asteotic eczema in 17 patients(5.67), chronic eczema in 16 patients with 5.53%, polymorphic light eruption in 4 patients (1.33%), phytophotodermatitis in 2 patients (0.67%) nummular eczema in 2 patients (0.67%), stasis eczemz in 10 patients (3.33%), seborrheic dermatitis in 3 patients (1%) air borne contact dermatitis in 2 patient (0.67%)

Gover and Narasimhalu[94] observed airborne contact dermatitis in3.5%,nummulr eczema in 3%, seborrheic dermatitis in 25% and asteotic eczema in 0.5% cases.

In comparison with the above studies, most common pathological manifestation was of eczematous dermatitis in our study. This was in line with the study conducted by Yalcin B et al an[44]d Pavithra S et al[91].

5.b. Infections And Infestations:

- Among the infections and infestations, there were 52 (17.3%) patients with fungal in-fections, 23 (7.7%) with viral infections, 26 (8.67%) with bacterial infections and 15 (5%) with parasitic infestations.
- Fungal Infections:
- Among the fungal infections, dermatophytosis was the commonest, accounting for 31(10.33%)of 52 patients followed by candidal balanoposthitis with 9 patients, oral candidiasis with 5 patients(1.67%) and candidal vulvovaginitis with 4 (1.6%) and pityriasis versicolor with 3 patients (1%).
- Similar higher incidence of fungal infections (44%) observed by George T et al [8]whereas Anand LC et al[94] observed fungal infections in 35% of cases
- The observation of Patange and Fernandez[87] had fungal infection reported in 17.5% out of the 34.5% with infections which is comparable with our study.
- The incidence of dermatophytosis in the study done by Gilchrist and Beauregar[93] was17.7% which is again comparable with our study.
- In the study done by Pavithra S et al[91], Fungal infections were reported in 20.7% of the cases, which is comparable with our study.

- Among 23 patients with viral infections, 10 patients were diagnosed with Herpes Zoster followed 9 were with verruca vulgaris, 2 patients with herpes simplex and 2 patients with molluscum contagiosum.
- Among 26 patients with bacterial infection, 9 patients had furuncles ,8 patients with folliculitis, 6 patients had pitted keratolysis, 2 patients had borderline lepromatous leprosy and 1 patient had erythrasma.
- We encountered 14 elderly patients with scabies in our study.

In the study done by Chopra A et al[86], prevalence of skin disorders were as follows - fungal infections 12 (5.6%), bacterial infection 10 (4.7%), herpes zoster 2 (0.9%)

In the study done by Patange V S et al[87], the infective dermatoses constituted 34.5% of the total. Fungal infections (17.5%) were the most common, followed by bacterial (8.5%) and viral (5%) infections.

In a study done by Yalcin B et al[44], the five most frequently observed diseases in elderly patients were eczematous pruritus, dermatitis, fungal infections and bacterial and viral infections.

In the study done by Sahoo A et al[90], most of the dermatoses cases encountered were of infectious nature (30%).

Among the infectious conditions fungal infections were commonest in our study, as was in all the above mentioned studies.

6. Papulosquamous Disorder:

- Among the papulosquamous disorders, 31 patients were observed with psoriasis, con-stituting 10.33% of the study population, out of which 1 patient (0.33%) had palmoplantar psoriasis.
- In the study done by Pavithra S et al[91], papulosquamous disorders were (12.3%), i.e. out of 17 patients. Out of this group of 17 only 12 of them had psoriasis, which is 8% and is consistent with our study.
- The second papulosquamous disorder encountered was lichen planus. 12 patients were observed with lichen planus i.e. 4%. Out of this group, 1 patient had hypertrophic type and 3 patients had oral lichen planus.
- 7. Vesicobullous Disorders:

Among the 300 patients enrolled in the study 3.33% had vesiculobullous disease with bullous pemphigoid being 2.33% that is 7 patients and pemphigus vulgaris in 3 patients with 1% prevalence.

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There were similar findings like our study in studies done by Priya Cinna and Thappa [63] with pemphigus vulgaris being 1.8% and bullous pemphigoid being 1.6% which accounts a total of 3.4% of the total study.

Similar observation was found with bullous pemphigoid with 1.8% in Chopra et al [86] study.

8. Keratinization Disorders:

- Among the Keratinization disorders observed plantar corn was the commonest with 20 cases constituting 6.67% following which is the callosities with 5.67% and plantar fissures with 9 cases with 4% of the study population.
- In our study there is 1 case reported with kyrle's disease with 0.33% of the elderly population.
- Similar findings were observed in a Patange and Fernandez[87] study who observed 30% of fissures and 9% of callosities
- Kyrle's disease was reported in a geriatric study done by Gover and Narasimhalu [94] as 0.5%.
- There is not much mentioning about Keratinization disorder in other studies.

9. Malignant Tumors:

Out of all the tumors encountered in our study population only 0.66% of malignant tumors were observed which is Basal cell carcinoma with 0.33% in 1 case and squamous cell carci-noma with 0.33% in 1 case in our study,

This incidence of malignant skin tumors was comparable with Beauregard and Gilchrest [93] who observed 4.4% and Priya and Thappa [63] with 1% cases.

10. Benign Tumors of the Skin:

The incidence of benign tumor in our study was sebborheic keratosis seen as the maximum with 45.3% in 136 patients followed by dermatosis papulosa nigra with 40.67% in 122 pa-tients followed by cherry angiomas with 38% in 114 patients and achrochordons with 21.67% in 65 patients .

Seborrheic keratosis was noticed in 50.6% following acrochodons in 49% and cherry angio-mas in 7.2% in a study by Priya Cinna and Thappa [63].Dermatosis papulosa nigra was max-imum observed with 74.5%, then cherry angioma in 63%, achrochordons in 61% and sebor-rheic keratosis in 43% in Gover and Narasimhalu [94] observational study.

The incidence of acrochordon is 21.65% which is comparable with t the study done by Pa-tange [87] where the incidence is 24.5%.

The incidence of seborrheic keratosis is 45.3% which is comparable with the study done by Patange [87] where the incidence is 37.5%.

The incidence of other benign tumours like sebaceous hyperplasia with 4.67% (14 patients), syringoma with 3.33% (10 patients), xanthelasma palpebrarum with 0.67 %(2 patient) and 0.33% of neurofibroma type 1 (1 patient) was also observed. But there is not much studies mentioning these conditions in their observations.

#### 11. Miscellaneous Condition:

The following were the incidence of miscellaneous condition in our study , the highest inci-dence of lichen simplex chronicus with 20 patients (6.67%), chronic urticaria 11 patients (3.67%), vitiligo vulgaris with 10 patients (3.33%), leg ulcers with 6 patients(2%) followed by colloid milium 5 patients (1.66%) pyoderma gangreosum 3 patents (1%), pyogenic granu-loma 1 patient(0.33%) and amyloidosis 1 patient (0.33%)

The incidence of colloid millium of 2.02% in study done by Pavithra et al [91] and incidence of leg ulcers 2.2% in Weismann and Krakaueret [32] were comparable.

There is not much mentioned about these miscellaneous conditions in other studies.

#### 12. Hair Changes:

The hair changes included in our study were and rogenic alopecia108 patients, diffuse hair loss in 57 patients and plica polonica 3 patients with the incidence of 36%, 19% and 3% re-spectively.

The condition that was uniformly present in all the study population was graying of hair which is comparable with 97.2% incidence of it in Priya Cinna and Thappa[63] in their study.Chopra et al [86]has reported 55.39% males with androgenic alopecia and 67.24% fe-males with diffuse hair loss which is comparable with our study.

#### 13. Nail Disorder:

Nail changes which were observed in our study carried the overall prevalence of 91% with loss of luster being the most common finding followed by thinning of nails and onychomyco-sis.

Gover and Narasimhalu [94] observed loss of lustre in 64%, vertical ridging in 72.5% and onychomycosis in 12%.

Priya Cinna and Thappa[63] found 50.8% loss of lustre followed by onychomycosis in 22.5% which is comparable with our study.

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#### Conclusions

Across the world, the elderly age cohort i.e. 60 years and above is growing faster than any other age group. The skin changes in the geriatric population merits greater study, not on-ly because of the societal tendency to consider skin aging as an important indicator of aging itself, but also as the aging skin could be a marker of underlying, sometimes serious systemic illness.

- □ In our study the commonest age group was 60-70 years.
- □ Majority of patients were males in this study
- □ Majority of male patients were agriculturists and majority of the female patients were housewives
- Diabetes mellitus was the commonest associated systemic disease
- Among the patient with diabetes mellitus as the comorbidities the frequency of infec-tions especially dermatophytosis and herpes zoster were high,
- Generalised pruritus was most commonly associated with xerosis.
- □ Wrinkling was one of the most common skin changes seen. Seborrheic keratosis, xero-sis, senile lentigenes, senile comedones, IGH was the other senile skin changes.
- □ Various pathological skin diseases like eczemas, infections, Papulosquamous diseases, psychocutaneous diseases, vascular conditions, bullous disorders, were seen.

Comprehensive knowledge of pathological and physiological skin changes in the geriatric population will significantly help dermatologists while providing care to such cases. Besides this, control of extrinsic factors such as exposure to sunlight and pollution, nicotine use and dietary factors can have significantly positive outcomes in the treatment of the elderly skin.

Abstract:

Background:

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Colour palate



### Linear furrows



Figure showing contact dermatitis to adhesives in the bindi which was proved by patch testing.



Lichen planus



Herpes zoster along c2 and C3 dermatome involving the mandibular branch of trigeminal nerve.