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A CLINICAL STUDY OF GERIATRIC DERMATOSES IN A TERTIARY CARE CENTRE, CHENNAI, INDIA

Dermatology

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ABSTRACT

Background: Ageing population is susceptible to a spectrum of dermatological conditions due to intrinsic and extrinsic changes in the skin. Geriatric dermatoses significantly impact quality of life and can be markers of underlying systemic diseases.**Materials and Methods:** A prospective observational study was conducted in the Dermatology OPD of a tertiary care centre in Chennai from March 2025 to February 2026. A total of 131 patients aged ≥60 years were enrolled. Detailed history, clinical examination, and relevant investigations (KOH mount, Tzanck smear, skin biopsy) were performed. **Results:** The mean age of the participants was 71.4 ±8.2 years, with a male-to-female ratio of 1.2:1. The most common dermatoses were eczematous disorders (24.4%), followed by infections and infestations (21.4%), and papulosquamous disorders (15.3%). Pruritus was the predominant symptom, present in 68.7% of patients. Senile xerosis was the most frequent specific diagnosis (28.2%). A majority of patients (79.4%) had at least one associated systemic comorbidity, with hypertension being the most common.**Conclusion:** Eczematous conditions and infections constitute the bulk of dermatological morbidities in the geriatric population. The high prevalence of pruritus and xerosis underscores the need for focused skin care regimens in the elderly. The strong association with systemic comorbidities highlights the importance of a holistic approach to management.

KEYWORDS

Geriatric dermatology, elderly, cutaneous disorders, xerosis, pruritus, comorbidity.

INTRODUCTION

In India, geriatric population is projected to rise significantly in the coming years[1], leading to unique healthcare challenges, among which geriatric dermatoses hold a prominent place. Geriatric dermatoses, not just being a cosmetic concern; constitute a major comorbidity that impair quality of life, leading to sleep disturbances, social isolation, and psychological distress [5]. Furthermore, cutaneous manifestations can often serve as the first marker of underlying systemic disorders, such as diabetes, renal failure, or malignancy. For instance, acanthosis nigricans may signal internal malignancy, while necrobiosis lipoidica is associated with diabetes mellitus [6].

Despite the significant burden, dermatological needs of the elderly are often overlooked in general clinical practice. Data on the pattern of skin diseases in geriatric population from different geographical regions of India is essential for planning and delivering effective dermatologic care. Hence, this study was carried out to document and analyse the clinical spectrum and demographic details of various dermatoses in the geriatric population attending a tertiary care centre in Chennai.

AIM

To analyse various clinical patterns and demographic details of geriatric dermatoses among elderly patients aged 60 years and above attending the Dermatology Outpatient Department.

MATERIALS AND METHODS

Study Design and Setting: A prospective observational study was conducted over a period of one year, from March 2025 to February 2026, in the Department of Dermatology, Venereology and Leprosy at, a tertiary care centre in Chennai, after obtaining approval from the Institutional Ethical Committee and written informed consent in the participant's preferred language (English or Tamil).

Study Population and Sample Size: A total of 131 patients aged 60 years and above, presenting with cutaneous disorders to the Dermatology OPD, were included in the study.

Inclusion and Exclusion Criteria: All patients aged 60 years and above, irrespective of associated systemic ailments, who presented with new-onset dermatoses diagnosed after the age of 60 years and willing to attend follow-up visits, were included. Patients less than 60 years of age and those with dermatoses diagnosed before the age of 60 years were excluded from the study.

Methodology: A detailed history was taken, and a thorough dermatological examination was undertaken for all enrolled patients. A structured proforma was used to record demographic data, presenting complaints, duration of illness, associated comorbidities, and clinical findings. Routine investigations and bedside procedures such as potassium hydroxide (KOH) mount, Tzanck smear, Gram stain, and pus culture/sensitivity were performed wherever necessary. A skin biopsy was done in selected cases to confirm the diagnosis. Clinical photographs were taken wherever necessary.

Statistical Analysis: The data collected were entered into a Microsoft Excel spreadsheet and analysed using Statistical Package for the Social Sciences (SPSS) version 28.0. Descriptive statistics were used to summarize categorical variables as frequencies and percentages, and continuous variables as mean and standard deviation.

RESULTS

A total of 131 patients were enrolled in the study. The demographic and clinical characteristics are summarized below in tables(1,2) and Figure1.

Table 1: Demographic Profile of the Study Population (n=131)

Characteristic	Value
Mean Age (years ± SD)	71.4 ± 8.2
Gender, n (%)	
- Male	71 (54.2%)
- Female	60 (45.8%)
Residence, n (%)	
- Urban	85 (64.9%)
- Rural	46 (35.1%)
Presence of Systemic Comorbidities, n (%)	104 (79.4%)

Table 2: Spectrum of Geriatric Dermatoses (n=131)

Category of Dermatosis	n (%)	Most Common Condition within Category (n)
Eczematous Disorders	32 (24.4%)	Asteatotic Eczema (18)
Infections & Infestations	28 (21.4%)	Dermatophytosis (12)
Papulosquamous Disorders	20 (15.3%)	Psoriasis (9)
Benign Tumors & Proliferations	18 (13.7%)	Seborrheic Keratosis (10)
Pruritus & Xerosis	16 (12.2%)	Senile Xerosis (37)*
Pigmentary Disorders	9 (6.9%)	Senile Lentigines (7)
Autoimmune Bullous Diseases	5 (3.8%)	Bullous Pemphigoid (3)
Others	3 (2.3%)	-
Total	131	

*Senile xerosis was a very common finding, often coexisting with other dermatoses. Some patients had conditions falling into more than one category.

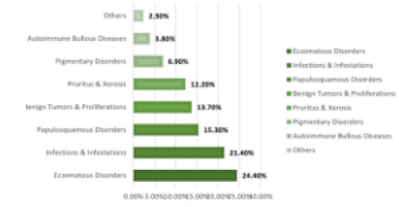

Figure 1: Spectrum of Geriatric Dermatoses

Pruritus was the most common presenting symptom, reported by 90 patients (68.7%). Senile xerosis was the single most frequent diagnosis, identified in 37 patients (28.2%). Among systemic comorbidities, hypertension was the most prevalent (52.7%), followed by diabetes mellitus (45.8%) and ischemic heart disease (18.3%). Many patients had multiple overlapping dermatological conditions. Based on their primary morphological presentation, Inflammatory dermatoses constituted the largest group (68.7%), followed by infections (21.4%), and benign growths (13.7%).(Table3, Figure2.) A detailed age-stratified analysis revealed that the prevalence of benign tumors and pigmentary disorders increased significantly with advancing age ($p<0.05$), while the relative proportion of infectious and eczematous disorders was higher in the younger geriatric cohort (60-70 years).

Table 3: Morphological Classification of Dermatoses (n=131)

Morphological Category	n (%)	Examples
Inflammatory	90 (68.7%)	Eczema, Psoriasis, Lichen Planus
Infectious & Infestations	28 (21.4%)	Dermatophytosis, Scabies, Bacterial Infections
Benign Growths & Proliferations	18 (13.7%)	Seborrheic Keratosis, Skin Tags, Cherry Angiomas
Autoimmune Bullous Diseases	5 (3.8%)	Bullous Pemphigoid, Pemphigus Vulgaris
Total	131	

Note: Some patients had conditions falling into more than one category.

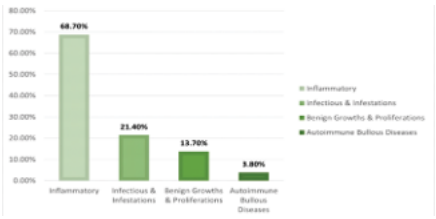

Figure 2: Morphological Classification of Dermatoses

Of the 90 patients who reported pruritus, it was generalized in 45 (50.0%) and localized in 45 (50.0%). The most common sites for localized pruritus were the legs (35.6%) and back (28.9%). Pruritus often co-existed with senile xerosis ($p<0.001$). Furthermore, patients with multiple systemic comorbidities reported more severe pruritus on a visual analog scale (VAS).

KOH mount for fungal elements was the most frequently performed test (n=40), with a positivity rate of 52.5% (21/40), primarily confirming dermatophytosis and pityriasis versicolor. Tzanck smear was performed in 12 cases of vesiculobullous disorders and was positive for acantholytic cells in 2 cases, diagnosing pemphigus. Skin biopsy was taken in 25 patients (19.1%) for diagnosing autoimmune bullous diseases(n=5) (100% diagnostic correlation) and in differentiating between cases of psoriasis and eczema in 4 patients where the clinical presentation was ambiguous. A sub-analysis was conducted to find associations between specific dermatoses and comorbidities. Patients with Diabetes Mellitus had a significantly higher prevalence of fungal infections ($p=0.03$) and acanthosis nigricans ($p<0.01$).(Table 4). A notable association was also observed between hypertension and senile pruritus, though it was not statistically significant ($p=0.07$). Patients with chronic renal disease showed a higher incidence of generalized pruritus and xerosis.

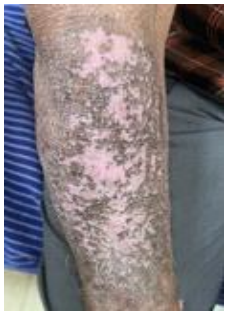

Figure 3: Senile xerosis with chronic intense pruritus featuring lichenification and post inflammatory pigmentary changes

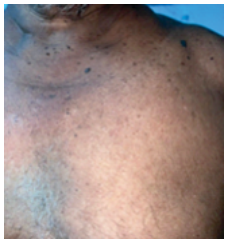

Figure 4: Seborrheic keratosis and

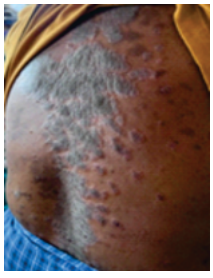

Figure 5: Psoriasis vulgaris

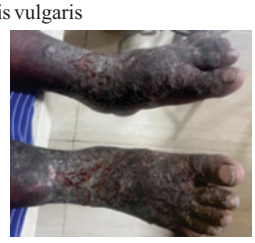

Figure 6: Asteatotic eczema

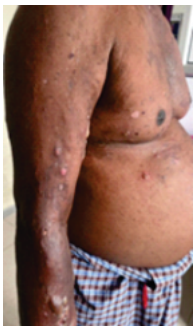

Figure 7: Bullous pemphigoid patient with multiple erosions and Bullae

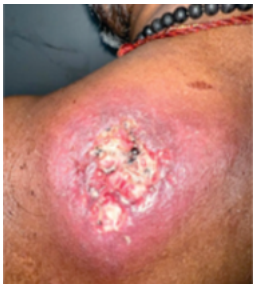

Figure 8: Carbuncle in a diabetic patient

Table 4: Association of Selected Dermatoses with Diabetes Mellitus (n=60)

Dermatosis	Diabetic Patients (n=60)	Non-Diabetic Patients (n=71)	p-value
Fungal Infections	18 (30.0%)	10 (14.1%)	0.03
Acanthosis Nigricans	8 (13.3%)	1 (1.4%)	<0.01
Senile Xerosis	20 (33.3%)	17 (23.9%)	0.24
Infectious Folliculitis	7 (11.7%)	4 (5.6%)	0.22

A preliminary assessment of the impact on quality of life using the Dermatology Life Quality Index (DLQI) in a subset of 50 patients revealed a mean score of 8.4 ±3.2, indicating a moderate to very large impact on the patient's life. The domains most affected were symptoms and feelings, and daily activities. Patients with eczematous disorders and pruritus reported the highest DLQI sco

DISCUSSION

Agarwal et al. observed that eczematous conditions were most prevalent in geriatric populations in Northern India, with xerosis and infections also being major concerns [7]. Similarly, Raveendra found eczematous and fungal infections to be dominant among geriatric patients [9]). The Taiwan study by Liao et al. reported that dermatitis and fungal infections comprised 58.7 % and 38 % respectively of diagnoses in a 7-year survey of elderly patients [10]. Compared to our findings (24.4 % eczematous, 21.4 % infections), the relative proportions vary but the pattern of predominance is consistent.

We observed a significant increase in benign tumors and pigmentary changes with age. This has been corroborated by Patange and Fernandez [11], and Jindal et al. [12], who also documented increased frequency of seborrheic keratosis and lentigines in older age brackets. The underlying cause is attributed to both intrinsic aging and photoaging as outlined by Yaar and Gilchrest[4].

Pruritus affected 68.7 % of our cohort, with equal distribution between generalized and localized forms. Reich et al. and Valdes-Rodriguez et al. emphasized the importance of xerosis as the most common underlying cause of pruritus in the elderly [6,13]. Our data showed a highly significant association between xerosis and pruritus ($p<0.01$), confirming this relationship. While not statistically significant, the trend of hypertension being linked to senile pruritus ($p=0.07$) may reflect the role of systemic vascular and renal changes [13]. The observed increase in pruritus among patients with chronic renal disease mirrors prior work indicating systemic factors contribute to cutaneous symptoms [6,13]. The presence of pruritus in 68.7 % of patients, often linked to xerosis and systemic disease, makes it a major concern in geriatric dermatology. This symptom has both clinical and psychosocial ramifications, often leading to sleep disturbance, emotional distress, and reduced functionality[13,14].

Notable association between diabetes mellitus and fungal infections in our study ($p=0.03$) is consistent with findings from other Indian studies [7,9]. Acanthosis nigricans, also significantly associated with diabetes ($p<0.01$), reflects the underlying metabolic dysfunction. In our study, eczematous and infectious disorders were more frequent in the younger geriatric cohort (60–70 years), while benign tumors and pigmentary disorders were significantly more common with advancing age. This reflects the cumulative effects of photoaging and intrinsic aging on skin integrity and repair mechanisms, as discussed by Farage et al. and Durai et al. [2,3]

The mean DLQI score of 8.4 ± 3.2 suggests a moderate to very large impact on patients 'quality of life, particularly among those with eczematous disorders and pruritus. This finding is supported by Sampogna et al., who noted significant quality-of-life impairment in elderly dermatology patients, particularly in relation to pruritus and visible skin disease [5]. Agarwal et al. also observed that skin disorders in older adults negatively affect emotional and functional wellbeing [7].

Asteatotic eczema being the most frequent eczematous subtype (18 out of 32 cases) is not surprising. Aging skin undergoes multiple physiological changes—such as diminished barrier function, reduced epidermal turnover, decreased lipid content, and atrophy of sweat/sebaceous glands—that contribute to xerosis and eczematous changes [2,3]. Although our fungal infection prevalence (around 9.2%) was lower than Liao et al.'s (38%) [10], the diagnostic yield of KOH (52.5% positive) underscores the need for routine screening in patients with suggestive lesions. Diabetes mellitus, which was present in 45.8 % of patients, was significantly associated with higher rates of fungal infection—likely due to immunological and barrier impairments [7,11].

The increase in benign proliferations like seborrheic keratosis and pigmentary disorders such as senile lentigines with age is well documented in both Indian and international literature [4,10,11]. The skin, being the largest organ, undergoes structural and functional changes with age, influenced by intrinsic (genetic, hormonal) and extrinsic (chronic sun exposure, environmental pollutants) factors [2]. These changes are attributed to cumulative ultraviolet exposure and senescent changes in skin physiology [3,4]. The high burden of systemic comorbidities (79.4%) and their associations with dermatological conditions underscore the importance of a multidisciplinary approach. Diabetic skin manifestations, hypertensive skin changes, and renal-related pruritus exemplify how skin disease in the elderly cannot be managed in isolation [14].

Our findings reinforce that even non-life-threatening skin conditions can significantly impair quality of life. DLQI scores confirm that eczematous dermatoses and chronic pruritus contribute disproportionately to emotional distress, daily activity limitations, and discomfort[5,7].

Comorbidities like diabetes and renal disease affect the presentation and severity of skin conditions in the elderly. The high burden of pruritus, often related to xerosis and systemic disease, significantly impairs quality of life, highlighting the need for integrated, personalized dermatologic care. These results align with existing Indian and global evidence.

Limitations

- The sample size was limited.
- Selection bias

CONCLUSION

Clinicians and health systems should recognise that geriatric dermatology requires specialized attention not only to visible skin lesions but to symptom burden, comorbid systemic disease, functional and psychosocial impact, and preventative care. Our study reaffirms the predominance of eczematous disorders, xerosis, and infections in elderly dermatology patients, along with the substantial burden of benign tumors in advancing age.

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