

## A clinical study of dermatological manifestations in geriatric patients in Shadan Institute of Medical Sciences and Teaching Hospital and Research Centre, Hyderabad, Telangana, India

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### Abstract

The geriatric population is continuously growing, which leads to more aged patients attending to dermatology outpatient. The aim of this study is to determine the dermatological complaints of the elderly.

A total of 200 patients aged 60 years and above were studied for cutaneous changes associated with ageing. A detailed history was recorded and complete examination carried out. Relevant investigations were performed, whenever indicated, after obtaining informed consent.

The majority of patients were found to be in the age group of 60 to 69 years, of these 63% were males and 37% females. Majority were associated with systemic illnesses, the most common being hypertension and diabetes mellitus.

In total of 200 patients pruritus was the commonest complaint in 124(62%) patients. Followed by infective dermatoses in 86(43%) of the total dermatoses. A variety of cutaneous lesions were observed among which the commonest was, seborrhoeic keratosis 46(23%). Fungal infections were noted in 46(23%), bacterial infections were in 32(16%) and 14(7%) cases had viral infections. Psoriasis was observed in 39(19.5%). Hair disorders were noted in 104(52%) and nail disorders were seen in 86(43%) cases. Malignancy was noted in 2(1%) cases.

Most of the skin problems in the elderly are noted by this study that would help improve the quality of life among the elderly and, in case of a disorder, lead to early diagnosis and treatment.

**Keywords:** Geriatric, Pruritus, Infective dermatoses

### Introduction

Most developed world countries have accepted the chronological age of 65 years as a definition of 'elderly' or older person but like many westernized concepts, this does not adapt well to the situation in developing countries. While this definition is somewhat arbitrary, it is many times associated with the age at which one can begin to receive pension benefits. At the moment, there is no United Nations standard numerical criterion, but the UN agreed cutoff is 60+ years to refer to the older population.

India entered the group of ageing countries in 2001 with the population of persons aged 60 years and above exceeding 7%. Further the geriatric population is expected to double by 2026. The reasons proposed for this are increase in life expectancy as well as decrease in birth rates.<sup>(1)</sup> Ageing results in variable spectrum of manifestations in all organ systems including skin. A decline in normal functions of skin predominantly its healing capacity, immune responsiveness and capacity to repair DNA occurs with aging.<sup>(2)</sup> Diseases of the aged are becoming increasingly important, as the gradual increase in the life expectancy in the last few decades. This has led to greater interest in the diseases of the aged.

Ageing is a process where both intrinsic and extrinsic stimuli such as ultraviolet rays, smoking, environmental pollutants affect structural as well as functional integrity of aging skin giving rise to spectrum of diseases such as xerosis, pruritus, eczema, psoriasis.<sup>(3)</sup> These dermatoses which are rarely fatal can lead to significant morbidity

and affect quality of life. The cumulative effect of ultraviolet rays has malignant potential and can produce skin cancers in older age group. As skin ages there are degenerative changes in the dermis which leads to decrease in collagen and elastin fibres hence decrease total thickness of skin which results in thinning of dermal papillae and subsequently reduce cushioning effect and support to dermal vasculature and prone to mechanical trauma which leads to pressure ulcer and skin tears and vascular disorders such as stasis dermatitis.<sup>(4)</sup> Cutaneous immunity suffers with age. Progressive reduction in normal immune system leads to reactivation of viral infection like herpes zoster and development of autoimmune disorders.

The present study gives an insight into different types of dermatological problems of the aged, their incidence, the various factors contributing to it and the association with systemic diseases.

### Materials and Methods

The study was carried out on 200 patients, aged 60 years and above, attending the out-patient Dermatology, Venereology and Leprosy department at Shadan Institute of Medical Sciences, Hyderabad, Telangana. A detailed history was taken and a general, systemic and cutaneous examination was carried out. All cutaneous and mucosal lesions present were recorded. Relevant investigations, which included haemogram, biochemical tests, cytology and a skin biopsy, were performed.

**Results**

In this study of 200 patients, 126(63%) were males and 74(37%) were females. There were 119(59.5%) patients belonging to the 60-69 years age group and only 72(36%) belonging to the 70-79 years age group. Only 9(4.5%) patients were 80 years and above of age.

Pruritus was the commonest complaint 124(62%) observed. Of which 19(9.5%) of them had senile pruritus and the rest were associated with cutaneous dermatoses 97(48.5%) and systemic diseases 8(4%).

The infective dermatoses constituted 86(43%) patients of the total. Among the infections, the commonest were fungal infection which were noted in 46(23%) patients, followed by bacterial infection in 32(16%) patients and viral infection in 14(7%) patients.

Associated systemic ailments were observed in 133(66.5%) patients. Diabetes was the commonest with 69(34.5%), followed by hypertension in 46(23%), 18(9%) had both diabetes and hypertension. Other systemic disorders observed were anaemia in 31(15.5%), asthma in 19(9.5%), ischaemic heart disease in 6(3%), pulmonary tuberculosis in 3(1.5%) of cases.

In cutaneous lesions commonest complaint was seborrheic keratosis. It was observed in 46(23%) patients (Fig. 1). Psoriasis was noted in 39(19.5%) of patients (Fig. 2).



**Fig. 1: Seborrheic keratosis**



**Fig. 2: Psoriasis**

Benign and malignant conditions were noted in 9 patients (4.5%). Benign was present in 7 (3.5%) patients and malignant condition was observed in 2 (1%) patient

(Fig. 3). Hair and Nail disorders were noted, male pattern baldness was noted in 47(23.5%) patients and 23(11.5%) patients had diffuse alopecia. The nails were lustreless in 42(21%), showing longitudinal ridging 52(26%), discolouration 28(14%), onychorrhexis 16(8%), subungual hyperkeratosis 6(3%) and showed deformity in 43(21.5%) cases.

**Table 1: Sex wise distribution of patients in different age groups**

Age group (Years)	N=200			
	Male		Female	
	No.	%	No.	%
60-69	67	33.5	52	26
70-79	53	26.5	19	9.5
>=80	6	3	3	1.5
Total	126	63	74	37

**Table 2: Number of patients presented with skin condition**

Diseases	No.	%
Pruritis	124	62
Xerosis	84	42
Dermatitis & Eczema	58	29
Fungal Infections	46	23
Bacterial Infections	32	16
Viral Infections	14	7
Scabies	31	15.5
Urticaria, Angioedema	44	22
Psoriasis	39	19.5
Lichen Planus	19	9.5
Para Psoriasis	3	1.5
Lipomas	64	32
Disorders of Hair	104	52
Disorders of Nail	86	43
Callus	32	16
Vitiligo	12	6
Bullous disorders	6	3
Benign	7	3.5
Malignant	2	1



**Fig. 3: Basal cell carcinoma**

Other disorders noted were lichen simplex chronicus in 32(16%) of cases and vitiligo in 12(6%). The rare skin conditions observed were stellate

pseudoscars, milia, pseudo acanthosis nigricans, bedsore, rhinophyma, freckles, primary syphilis, pellegra, atopic dermatitis, ichthyosis vulgaris, lichen sclerosis et atrophicus, acrosclerosis and panniculitis.

Oral cavity involvement was seen in 68(34%) cases. Pigmentation of the oral mucosa was found in 36(18%) patients, it was mainly due to the habit of chewing tobacco and betel nut. Lichen planus was noted in 19(9.5%) among which oral involvement was seen in 3(1.5%) patients. The incidence of angular cheilitis was found to be 6(3%).

## Discussion

Elderly population aged 60 and above constitutes a large and rapidly growing segment of Indian population. Geriatric health care has become a worldwide concern, it is important to identify the patterns of geriatric skin disorders for effective delivery of health care services. There are few studies about the skin problems of the elderly. These previous retrospective or prospective studies were focused on detecting the prevalence or characteristic patterns of skin diseases, or identifying past or present skin complaints and the dermatologic findings in the elderly.<sup>(5-7)</sup>

The present study was carried out on 200 patients aged 60 years and above who attended the outpatient department of Dermatology, Venerology and Leprosy of Shadan Institute of Medical Sciences, Hyderabad, Telangana. The aim of this study was to determine the frequency and distribution of skin diseases in elderly and the dermatologic complaints of geriatric patients that lead them to attend dermatology outpatient clinic. The patients with any dermatological complaint above the age of 60 years were noted. A detail history was taken about presenting complaint, any systemic disorders, any changes in hair and nail. Routine investigations were done for patients when required. A high prevalence of infections were seen in our study. This reflects the decrease in immunological functions of skin in elderly persons associated with a decrease in personal care.

In this study males outnumbered the females which was the reverse of that observed in Lane and Rockwood's study.<sup>(9)</sup>

In this study, pruritus constituted the major complaint 124(62%). This was much higher than the pruritus reported by Beauregard and Gilchrests (29%).<sup>(8)</sup> Old age is usually associated with dry and atrophic skin which is responsible for essential pruritus.

Decreased immune surveillance in the elderly may be related to aging and associated systemic diseases, providing more opportunity for the development of infectious diseases. The diagnosis and management of infectious diseases of the skin are significant issues in the elderly.<sup>(8)</sup> Fungal infections were a common complaint in this study, with rates as high as 46(23%). In elderly people, decreases in personal care, epidermal care, and immunologic functions may be responsible for the high prevalence of fungal infections.<sup>(10)</sup> Among fungal

infections, tinea infections were the most frequent type. Various other studies have reported variable rates ranging from 8.2% to 38.0%.<sup>(11-15)</sup> This wide variation can be explained because of differences in environmental conditions. High prevalence in our study probably reflects humidity in our region.

Bacterial infections were the second most frequent type of infectious diseases with a prevalence of 32(16%). Bacterial infections encountered were pyoderma, cellulitis, and erythrasma. Cellulitis and erysipelas can be life-threatening in the elderly.<sup>(16)</sup>

Of the viral infections, warts 6(3%) and herpes zoster 4(2%) were frequently seen. The reactivation of varicella zoster virus usually causes herpes zoster infection in elderly patients.<sup>(17,18)</sup> Due to the weakening of the cellular immune system and delay in the healing process, the recovery time from the zoster infections can be longer in elderly patients. Additionally, post-herpetic neuralgia usually is not encountered in patients below 40 years, but is seen in about 50% of the patients over 60 years.

In eczema-dermatitis group 58(29%) patients had contact dermatitis, mostly allergic in nature. Most of the elderly population is involved in farming increasing their exposure to various environmental allergens. Variable rates of dermatitis have been reported by other studies ranging from as low as 1.5% to as high as 58.7%.<sup>(12,19-27)</sup> Itching and skin dryness increases with aging that is related to decreased secretion activity of adipose tissues and sweating glands, and not using moisturising cream after having frequent and warm baths. Skin dryness increases especially in winters.<sup>(15,28)</sup> The ways to prevent skin dryness include decreasing the frequency of having baths, minimising the use of soap, avoiding the use of a coarse bath-glove, and using moisturising cream after having baths.<sup>(15)</sup> In addition to skin dryness, itching may occur as a result of several etiological factors (10-50%) including diabetes mellitus, chronic renal failure, thyroid disease, liver dysfunction, neuropathies, malignant neoplasm such as lymphoma and leukaemia, anaemia, polycythemia vera, vitamin A toxicity, and multiple medication use.<sup>(15,28,29)</sup> If the patient with itching does not respond to general preventive approaches and moisturizing cream, the patient should be investigated for systemic diseases.<sup>(29)</sup>

The incidence of vitiligo was found to be 12(6%) patients as against reported by Weisman (1.4%).<sup>(27)</sup> The overall incidence of vitiligo in India is about 3-4%.

The frequency of drug reaction is generally increased in the elderly population because of multiple drug use.<sup>(3)</sup> Generally the most common cutaneous drug reactions are itching, exanthema and urticaria in the elderly. In addition, drug-induced auto-immune skin diseases such as pemphigus, bullous pemphigoid and lupus erythematosus may develop as well.<sup>(17)</sup> The drug reaction frequency in elderly population was 0.5% in one study,<sup>(15)</sup> and 1.4% in another.<sup>(12)</sup> In our study, the drug reaction was 0.3% that was lower than the previous

results. The lower drug reaction frequency in our study may be related to our classification method because we separately evaluated the urticaria group from the drug reaction group. In this study urticaria and angioedema was not in 44(22%) cases. It is important to include drug reactions in differential diagnosis in elderly patients since it may mimic other skin diseases.<sup>(3)</sup>

The risk of developing melanoma and non-melanoma skin cancers significantly increases with aging. In our study, the frequency of malignant skin tumours was 2(1%) cases.

The other most commonly encountered skin disorders were Psoriasis 39(19.5%), seborrheic keratosis 46(23%), Fissuring of soles 60(30%), Idiopathic guttate hypomelanosis was seen in 39(19.5%) of cases especially over the sun protected sites.

### Conclusion

In this study which was conducted in 200 patients. The males 126(63%) were more than females 74(37%). Pruritis was the commonest complaint in 124(62%) cases. Xerosis was noted in 84(42%) cases. Fungal infections were present in 46(23%), bacterial infections in 32(16%) and viral infections were noted in 14(7%) of patients. Associated systemic disorders were observed in 133(66.5%) patients among them Diabetes was the commonest with 69(34.5%), followed by hypertension in 46(23%).

As the previous studies and our study show, skin diseases are common in elderly people and adversely affect their quality of life. Life expectancy is increasing all over the world, and the geriatric population is rising dramatically every year. As people age, their chances of developing skin-related disorders increase. Most of the skin problems in the elderly are noted by the study could have been prevented by protective measures like xerosis, infections. As such, raising the general level of awareness is critical. Health education programmes about skin disorders need to be fashioned to include general and practical preventive information. This would improve the quality of life among the elderly and, in case of a disorder, lead to early diagnosis and treatment.

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