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Original Research Article

Study of clinical patterns and frequency of cutaneous manifestations in the elderly

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ABSTRACT

Background: Cutaneous manifestations are common in elderly. The elderly population is composed of persons over 60 years of age and very few studies are available on the dermatologic diseases in this group. This study was done to study the clinical pattern and frequency of cutaneous manifestations in the elderly.
Methods: A cross sectional observational study was conducted on 540 patients, aged 60 years and above, who attended the out-patient department and admitted as inpatients having cutaneous manifestations were included, in the department of dermatology Era's Lucknow Medical College And Hospital, Lucknow. A detailed history was taken regarding the onset and duration of cutaneous manifestations. Thorough dermatological examination was carried out on all study patients. Relevant investigations which included haemogram, biochemical tests and a skin biopsy were performed, wherever needed. Skin changes in all the patients were recorded and were classified into physiological and pathological changes. Data were entered in an Excel sheet and were analyzed using descriptive statistics.
Results: Out of 540 patients studied, 55.7% were males and 44.3% were females. Pruritus was the single most common complaint elicited (90.6%). Among the physiological changes, wrinkling was the commonest (80.9%). Among the pathological changes skin tumours, eczemas, infections were the common findings.
Conclusions: The geriatric dermatoses are different in different populations, as there is significant number of geriatric population, the increased emphasis on geriatric medicine is inevitable. This present study helps in providing greater understanding of pattern of geriatric dermatoses that aids in early diagnosis and management.

Keywords: Elderly, Wrinkling, Benign tumours, Eczema, Infections, Infestations

INTRODUCTION

Ageing is the process of becoming older, representing the accumulation of changes over time, encompassing physical, psychological, and social changes.[1] Elderly population suffers from a variety of age related health problems.[2] The UN agreed upon cut-off is 60+ years to refer a person as older or elderly. Within the elderly population, further classification like oldest old (80+) and centenarian (100+) and even super-centenarian (110+) are also made. World Health Organization estimates that nearly two billion people across the world are expected to be over 60 years old by 2050, a figure that's more than triple what it was in 2000.[3] India is the second largest country in the world, with 72 million elderly persons above 60 years of age as of 2001, which is expected to increase from 71 million in 2001 to 179 million in 2031, and further to 301 million in 2051.[4]

Sun exposure is the main cause of skin damage over a prolonged period of time. Skin damage from the sun exposure is due to the sun's ultraviolet (UV) light, which breaks down elastic tissue (elastin) in the skin and causes the skin to stretch, sag, wrinkle, and become blotchy,

occasionally with pre-cancerous growths and even skin cancer.[5]

The common skin disorders prevalent in elderly are xerosis, pruritus, dermatoheliosis (photo aging), benign tumors like acrochodrons, seborrheic keratosis, cherry angiomas, infections like herpes zoster, dermatophytosis, cellulitis etc. Eczemas like asteatotic eczema, stasis eczema, discoid eczema and other forms of eczema are common in elderly.[6]

METHODS

A cross sectional observational study was conducted on cutaneous manifestations in the elderly was conducted between November 2016 to May 2018, in the department of dermatology Era's Lucknow Medical College and Hospital, Lucknow. After obtaining permission from institutional Ethics Committee a total of 540 patients, aged 60 years and above, who attended the out-patient department and admitted as inpatients having cutaneous manifestations were included in the study. Non consenting patients were excluded.

A detailed history was taken regarding the onset and duration of cutaneous manifestations, thorough dermatological examination was carried out on all study patients. Relevant investigations which included haemogram, biochemical tests and a skin biopsy were performed, wherever needed.

Skin changes in all the patients were recorded and were classified into physiological and pathological changes. Data were entered in an Excel sheet and were analysed using descriptive statistics.

RESULTS

Total of 540 patients, of 60 years and above were studied, out of which, (301) 55.7% were males and (239) 44.3% were female. The maximum number patients 232 (43%) belonged to the age group of 60-64. The mean age of these patients was 65.94 years (Table 1).

Figure 1: Senile comedome.

Pruritus was the commonest single complaint in 489 patients (90.6%) (Table 2). Maximum number of patients had physiological changes and the commonest was wrinkling (80.9%). The physiological changes were tabulated in Table 3 (Figure 1). The pathological changes were tabulated in Table 4.

Among the pathological changes, papulosquamous disorders were seen in 62 patients (11.5%). Forty eight patients (8.9%) had psoriasis and 14 (2.6%) had lichen planus (Figure 2).

Figure 2: Psoriasis.

Eczema was present in 118 patients (21.8%). Among the various types of eczema, nine patients (1.7%) each had seborrheic dermatitis, hand eczema was seen in 6 patients (1.1%) and 22 patient (4.1%) had foot eczema, numumular eczema was seen in 14 patients (2.6), chronic eczema was seen in 60 patients (11.1%), and contact dermatitis was seen in 7 patients (1.3%) (Table 4A).

Table 1: Age and sex distribution of subjects (n=540).

Age group (years)	Gender				Total	
	Male		Female			
	No.	%	No.	%	No.	%
60 - 64	82	35.3	150	64.7	232	43.0
65 - 69	121	68.8	55	31.3	176	32.6
70 - 74	44	57.9	32	42.1	76	14.1
75 - 79	48	96.0	2	4.0	50	9.3
≥ 80	6	100.0	0	0.0	6	1.1
Total	301	55.7	239	44.3	540	100.0

Mean±SD of age=65.94±4.99 years, age range= 60–84 years.

Table 2: Complaint of pruritus among the subjects (n=540).

Variable	Category	No.	%
Pruritus	Absent	51	9.4
	Present	489	90.6

Table 3: Physiological skin changes among the subjects (n=540).

Physiological changes	No.	%
Xerosis	302	55.9
IGH	133	24.6
Wrinkling	437	80.9
Senile lentigines	89	16.5
Senile comedones	57	10.6

Table 4: Pathological skin changes among the subjects (n=540).

Pathological changes	No.	%
Benign tumors	244	45.2
Malignant tumors	4	0.7
Infestations	91	16.9
Drug reaction	3	0.6
Infections	229	42.4
Papulosquamous disorder	62	11.5
Bullous disorders	14	2.6
Psychocutaneous disorders	27	5.0
Vascular disorders	46	8.5
Miscellaneous disorder	38	7.0
Pigmentary changes	65	12.03
Eczematous conditions	118	21.9

Table 4A: Distribution of eczematous conditions among the subjects (n=540).

Eczematous conditions	No.	%
Chronic eczema	60	11.1
Contact dermatitis	7	1.3
Hand eczema	6	1.1
Seborrheic dermatitis	9	1.7
Nummular eczema	14	2.6
Foot eczema	22	4.1

Table 4B: Distribution of infections among the subjects (n=540).

Type	Disease	No.	%
Bacterial	Leprosy	21	3.9
	Furuncle	28	5.2
	Folliculitis	32	5.9
Fungal	Candidiasis	38	7.0
	Dermatophytosis	78	14.4
Viral	Herpes zoster	21	3.9
	Warts	11	2.0

Infestations were seen in 92 patients (17%), among which scabies was seen in 76 patients (14.1%) and pediculosis was seen in 16 patients (3%).

Infections were seen in 229 patients (42.4%), these were tabulated in Table 4B, of the various infections, and fungal infection was the commonest.

Table 4C: Distribution of benign tumors among the subjects (n=540).

Benign tumors	No.	%
Acrochordon	86	15.9
Seborrheic keratosis	127	23.5
Sebaceous cyst	2	0.4
Cherry angioma	163	30.2
Syringoma	4	0.7
Dermatosis papulosa nigra	117	21.7

Table 4D: Distribution of miscellaneous disorders among the subjects (n=540).

Miscellaneous disorder	No.	%
Polymorphous light eruptions	12	2.2
Colloid milia	12	2.2
Pyogenic granuloma	4	0.7
Chronic urticaria	9	1.7
Granuloma annulare	1	0.2

Pigmentary disorders were seen in 65 patients (12.03%). Among the various pigmentary disorders, vitiligo was seen in 16 patients (2.9%), melasma in 49 patients (9.07%).The incidence of benign tumors exceeds the number of cases because most patients had more than 1 type of tumor, among the benign tumour cases, maximum 30.2% were the cases of cherry angioma, 23.5% were the cases of seborrheic keratosis, 21.7% were diagnosed for dermatosis papulosa nigra, 15.9% diagnosed for acrochordon and 0.4% and 0.7% were diagnosed for sebaceous cyst and syringoma respectively (Table 4C).

Figure 3: Pemphigus vulgaris.

Four cases (0.7%) of malignant tumors were seen in this study. Senile purpura was the commonest vascular disorder seen in 46 cases (8.5%).

Bullous disorder was seen in 14 patients, of which bullous pemphigoid was seen 9 cases (1.7%), and pemphigus vulgaris was seen in 5 patients (0.9%) (Figure 3). Psychocutaneous disorders were seen in 27 patients (5.0%) and all were the cases of lichen simplex chronicus.

Among the miscellaneous disorder cases, 2.2% were the cases of polymorphous light eruptions, 2.2% were the cases of colloid milia, 0.7% were diagnosed for pyogenic granuloma, 1.7% were diagnosed for chronic urticaria and 0.2% (one case) was diagnosed for granuloma annulare (Table 4D)

Among all the cases, greying was found in 11.1% subjects, 54.8% subjects showed diffuse hair loss in females while 74.4% subjects showed Androgenic alopecia in males (Table 5).

Table 5: Distribution of hair changes among the subjects (n=540).

Hair changes	No.	%
Greying	490	90.7
Diffuse hair loss in females	131	54.8
Androgenic alopecia in males	224	74.4

Table 6: Nail changes status among the subjects (n=540).

Nail changes	No.	%
Vertical ridges (VR)	276	51.1
Sublingual hyper keratosis (SH)	31	5.7
Onychorrhexis (OR)	159	29.4
Pitting	6	1.1
Thickening (TH)	93	17.2
Loss of lusterness (LL)	271	50.2
Overall nail changes	430	79.6

Nail changes among the subjects it was found that 79.6% (430) subjects appeared with nail changes, among them 276 subjects (51.1%) showed vertical ridges, 31 subjects (5.7%) showed Sublingual hyper keratosis, 159 subjects (29.4%) showed onychorrhexis, 6 subjects (1.1%) showed Pitting, 93 subjecs (17.2%) showed thickening and 271 subjects (50.2%) showed loss of lusterness (Table 6).

DISCUSSION

In our study, a total of 540 patients varying in age from 60-90 years were examined, of these, 301 patients (55.7%) were males and 239 (44.3%) were females. The eldest patient was 84 years of age. Mean age was 65.94 years.

In a study, by Jiamton et al, out of 516 patients age range from (60–94 years), 217 (47%) were males and 299 (57.9%) were females.[7] In a study by Talukdar et al, out of 360 patients (60 years and above) 257 (71.4%) were male patients and 103 (28.6%) were female patients.[8] In a study by Raveendra et al, in 200 patients 65 years and above, 147 (71%) were males and 58 (29%) were females.[9] In a study by Jindal et al out of 1380 patients aged 60 years and above 921 (66.7%) were males and 459 (33.3%) were females.[10] In a study by Sheetal et al, out of 300 patients aged 60 and above, 204 (68%) were males and 96 (32%) were females.[11] In a study by Droller on random cases of 476 individuals, out of which, 192 were men and 284 were women, all patients were between 60 and 90 years of age.[12] Cinna et al did a hospital-based descriptive study on 500 elderly, females aged 50 years and above and males aged 60 years and above, in their study, female-to-male ratio was 1.34:1, Out of which 213 were males (42.6%) and 287 (57.4%) were females.[13]

In present study 90.6% subjects was came with the complaint of Pruritus. Whereas in a study done by Sheetal et al, pruritus was seen in 32% and in a study by Dhumale et al, pruritus was seen in 20.5%, whereas Droller noticed generalised pruritus in 29.7% males and 29.2% females.[11,12,14] Cinna et al found in 49.6%. Beauregard and Gilchrest found in 29% patients. Patange et al observed pruritus in 78.5% patients.[13,15,16] As compare to other studies proportion of subjects with complaint of pruritus were higher in present study.

In our study, xerosis was seen in 302 patients (55.9%), whereas Tindall et al reported an incidence of xerosis in 77%, while Beauregard et al found it in 85% of patients.[15,17] Chopra et al found in 108 (50.8%) cases.[18] Our study shows similar results as that seen in Chopra et al, but lower incidence of xerosis in this study as compared to those by Tindall et al and Beauregard et al.[15,17,18] This could be attributed to the tropical climate in which the patients of this study live and relative humidity in tropical climates is more than that in temperate climates reducing the degree of xerosis.

In our study wrinkling was a common finding and noticed in 437 patients (80.9%). Similar findings were observed by Sheetal et al, wrinkling was seen in 89%.[11] In a study by Raveendra L, wrinkling was seen in 88%.[9] In study by Grover et al, wrinkling was seen in 191 (95.5%).[19] Cinna et al found in 100%, Tindall et al found in (94%) and Beauregard et al in 95.6% found wrinkling.[13,15,17] Similar results were observed by Grover et al.[19]

In this study senile lentigens was seen in 89 cases (16.5%). Similar findings where seen in study by Talukdar et al seen senile lentigines in 10.8%, Patange et al found an incidence of 12%, Raveendra, seen senile lentigines in 15%.[8,9,16] Sheetal et al seen in 30.3%, Tindall et al reported senile lentigines in 51%, whereas Beauregard et al reported senile lentigines in 70.6%.[11,15,17] The incidence of senile lentigines in this study is

comparable to that of Patange et al, and Raveendra studies.[9,16]

In our study, Idiopathic guttate hypomelanosis was seen in 24.6% (133 cases), where as in a study done by Cinna et al found it in 26% (130). Beauregard et al reported an incidence of 24.4% and Patange et al found it in 24.5% and in study by Talukdar et al it was seen in 22.5%.[8,13,15,16] Where as in a study by Sheetal et al it was seen in 45.3% and Raveendra saw it in 33% of patients.[9,11]

In our study, senile comedoms were found in 57 (10.6%) cases, Whereas in a study by Cinna et al they observed it in 4.6% individuals, in a study by Grover et al it was found in 6.5%, Patange et al have reported an incidence of 11.5%, Dhumale et al found it in 13% but in study by Raveendra, senile comedones were present in 28% and Sheetal et al found it in 31.3%.[9,11,13,14,16,19]

In our study, psoriasis was seen in 48 cases (8.9%) cases. Whereas Tindall et al found psoriasis in 1% of cases, Beauregard et al mention an incidence of 2.9%, Talukdar et al found it in 4.2%. Jindal et al found it in 5.4% but in a study by Raveendra psoriasis was found in 7%, Jiamton et al found it in 8.3%, while Patange et al found it in 10.5%.[7,8,9,10,15,16,17]

In our study, 14 (2.6%) cases of lichen planus were seen. In a study by Raveendra, lichen planus was found in 5%, Talukdar et al found it in 3.6%, Jindal et al found it in 3.3%.[8,9,10]

In our study, among the cases of eczematous conditions, 11.1% were the cases of chronic eczema, 1.3% was the cases of contact dermatitis, 1.1% were the cases of hand eczema, 1.7% were diagnosed for seborrheic dermatitis, 2.6% were diagnosed for nummular eczema and 4.1% were diagnosed for foot eczema where as in a study by Jindal et al seborrheic dermatitis was found in 1.4%, contact dermatitis in 7.3% and stasis dermatitis in 0.6%.[10] In a study by Talukdar et al eczema was found in 34%, seborrheic dermatitis in 4.4%, stasis eczema in 4.2%, contact dermatitis in 3.9% and asteatotic eczema in 2.2%.[8] In a study by Jiamton et al, eczematous dermatitis was found in 31.2%, asteatotic eczema in 10.3%, seborrheic dermatitis in 2.9%, contact dermatitis in 1.7% and stasis eczema in 0.6%.[7] In a study by Dhumale et al, stasis eczema was found in 19%.[14] In a study by Raveendra , eczematous dermatitis was found in 31%.[9] Cinna et al found an incidence of eczema in 24.2% similar to that seen in our study.[13] Verbov reported an incidence of 24.7% with 10% having allergic contact dermatitis.[20] Weismann et al reported seborrheic dermatitis in 7%, stasis dermatitis in 6.9% and contact dermatitis in 3.8%.[21] Johnson reported seborrheic dermatitis in 3.6%, contact dermatitis in 2% and eczema in 1.8%.[22] Beauregard et al reported contact dermatitis in 11.8%, seborrheic dermatitis in 10.5% and stasis dermatitis in 5.9%.[15] Patange et al found contact dermatitis in 7.5%.[16] In our study we found similar incidence of seborrheic dermatitis compares well with Jindal et al.[10]

In our study infective conditions were seen in 229 (42.4%) cases, fungal infections was seen in 116 (21.4%) cases, among the fungal infection cases, 7.0% were the cases of candidiasis, 8.3% were the cases of dermatophytosis-dermatophyte, 3.9% were the cases of dermatophytosis- non dermatophyte and 2.2% were diagnosed for dermatophytosis- no growth. Viral infections in 32 (5.9%) cases, among the Viral infection cases, 3.9% were the cases of herpes zoster and 2.0% were the cases of warts and bacterial infections in 81 (15%). Among the bacterial infection cases, 3.9% were the cases of leprosy, 5.2% were the cases of furuncle and 5.9% were diagnosed for folliculitis. In a study done by Jindal et al fungal infections were found in 18%, viral in 7.6%, bacterial 2.7%.[10] In a study by Talukdar et al seen fungal infections in 16.9%, bacterial in 8.9% and viral in 7.8%.[8] Study conducted by Raveendra, found fungal infections in 11% and viral in 8%.[9] Tindall et al reported dermatophytosis in 79%, Johnson reported an incidence of 12.7% for dermatophytosis.[17,22] Beauregard and Gilchrest found dermatophytosis in 17.7%.[15] Patange et al reported infective dermatoses as 34.5% of the total dermatoses, out of this fungal infection was found in 17.5%, bacterial infection in 8.5% and viral infections in 5%.[16] Cinna et al found infectious conditions in 46.8%, out of which fungal infections were the commonest seen in 34.4% and onychomycosis in 22.2% cases, bacterial infections in 0.8% and viral infections in 0.6%.[13] The incidence of infective conditions in our study compares well with that of Talukdar et al and Fernandez.[8,16]

In our study, cherry angioma was commonest and seen in 30.2% of cases, seborrheic keratosis were 23.5% of the cases, dermatosis papulosa nigra were seen in 21.7% cases, acrochordon were seen in 15.9% of cases and 0.4% and 0.7% were diagnosed for sebaceous cyst and syringoma respectively. In a study by Raveendra seborrheic keratosis was found in 56%, dermatosis papulosa nigra was found in 47%, cherry angiomas in 37% and acrochordons in 19.5%.[9] In a study done by Shashikant et al found Seborrheic keratosis in 15%.[14] In a study by Talukdar et al cherry angiomas was found in 58.3%, seborrheic keratosis in 23.3% and Skin tags in 20.6%.[8] In a study by Cinna et al found seborrheic keratosis in 50.6% cases and cherry angioma in 7.2% cases and acrochordons in 49%.[13] Grover et al found seborrheic keratosis in 43% and cherry angioma in 63%.[19] Tindall et al found seborrheic keratosis in 88% of cases and cherry angiomas in 75% of cases.[17] Beauregard et al observed seborrheic keratosis in 61.2% and cherry angiomas in 53.7 cases, they also reported incidence of dermatosis papulosa nigra in 58.8% cases.[15] Patange et al found cherry angioma in 46.5%, seborrheic keratosis in 37.5% and acrochordons in 24.5% of cases.[16]

In our study carcinoma were found in 0.7% cases. Among the subjects, 4 cases i.e. 0.7% were diagnosed for squamous cell carcinoma. In a study by Jindal et al, cutaneous malignancies in 0.8%, out of 1,380 patients more than 60 years basal cell carcinoma was found in 7 patients and squamous cell carcinoma in 1 case.[10] In a study by Talukdar et al, squamous cell carcinoma was found in 0.8% and basal cell carcinoma in 0.6%.[8] In a study by Dhumale et al, basal cell carcinoma was found in 3 cases and squamous cell carcinoma in 2 cases.[14] Cinna et al reported 5 cases of malignancy.[13] Patange has reported no case of skin malignancy.[16] The lower incidence of malignant skin tumours in this study could be because of the lower incidence of skin cancer in racially pigmented skin, which was found in our study population. Higher incidence was seen by Verbov, who found an incidence of 13.5% for malignant skin tumours.[20] Beauregard et al found skin cancer in 4.4%.[15]

In the present study, vascular disorders were seen in 8.5% (46 cases) and all cases were diagnosed for senile purpura. In a study by Raveendra, senile purpura was found in 7%.[9] In a study by Dhumale et al, senile purpura was found in 30.5%.[14] Tindall et al have reported pigmented purpuric dermatoses in 31%.[17] Beauregard et al observed senile purpura in 11.9%, while Patange et al found an incidence of 9% of senile purpura.[15,16]

In present study, bullous disorders were seen in 2.6% (14 cases). Among the bullous disorder cases, 1.7% of the total subjects were diagnosed for bullous pemphigoid and 0.9% diagnosed for pemphigus vulgaris. In a study by Raveendra among the bullous disorders, only bullous pemphigoid was noted in 1.5% patients.[9]

In present study, 5% patients arrived with psychocutaneous disorders. Among the psychocutaneous disorder cases, 5.0% of the total subjects were diagnosed for lichen simplex chronicus. In a study by Jindal et al, Lichen simplex chronicus was found in 1.9%.[10] In a study by Talukdar et al reported prurigo nodularis in 2.8% and lichen simplex chronicus in 8.6%.[8]

In our study, graying of hair was found in 90.7% subjects, 54.8% subjects showed diffuse hair loss in females, while 74.4% subjects showed androgenic alopecia in males. In a study done by Cinna et al greying was seen in 97.2% males and 90.9% females. Diffuse hair thinning was seen in 67.24% males and androgenic alopecia was seen in 55.39% males.[13] Patange observed male pattern baldness in 20 males and diffuse hair loss in 94 females in their study of 200 patients.[16]

In the present study it was found that 79.6% subjects appeared with nail changes, among them 51.1% showed vertical ridges, 5.7% showed sublingual hyper keratosis, 29.4% showed onychorrhexis, 1.1% showed pitting, 17.2% showed thickening and 50.2% showed loss of lusterness, where as in a study done by Raveendra shows vertical ridging was found in 47%, loss of lustre in 44% and onychomycosis in 7%.[9] Cinna et al found that loss of lustre was the commonest nail change seen in 50.8%, vertical ridging was seen in 24% and onychomycosis in 22.5%.[13] Patange et al observed loss of lustre in 20.5%.[16] Grover et al observed loss of lustre in 64%, vertical ridging in 72.5% and onychomycosis in 12%.[19]

CONCLUSION

The elderly dermatoses are different in different populations, with the expected increase in the elderly population in the coming years, the dermatological problems in elderly population are of great relevance. Our study shows that physiological changes seen with ageing such as wrinkling, xerosis, senile comedone, and senile lentigens are major cutaneous findings. Eczemas of various types and fungal and bacterial infections are the common dermatological manifestations. Benign tumors such as cherry angiomas are also commonly seen but incidence of skin malignancy is low in our geriatric population. This present study helps in providing greater understanding of pattern of elderly dermatoses that aids in early diagnosis and management.

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