

A Clinico- Epidemiological Study of Geriatric Dermatoses in Tertiary Care Centre, Ujjain

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Abstract

Introduction: Ageing is a biological reality which has its own dynamics which is beyond human control. A person aged 60 years or above is defined as "Elderly". Geriatric health care has been considered as an emerging issue due to increase in life expectancy. Cutaneous lesions are more common among the elderly due to ageing, which causes a decline in the function of the skin.

Objectives:

- 1) To determine the clinical pattern of Dermatological disorders and their prevalence in Geriatric population.
- 2) To offer geriatric population timely care and treatment.

Materials and Method: The present study was Hospital-based Cross-sectional Observational study, conducted in Dermatology Department at R.D. Gardi Medical College, Ujjain over a period of one and a half year. A total of 110 cases with age 65 years and above who presented in our OPD/IPD were chosen as study group.

Results: Out of 110 patients studied 87 (79.1%) were males and 23(20.9%) were females. Generalized pruritus was the single commonest symptom noted in this study (34.5%). Xerosis was the commonest physiological change observed in (87.27%). Among pathological changes Eczema was the commonest (32.73%). Greying of hair (82.73%) was the commonest hair change and vertical ridging of nails (52.3%) was the commonest nail change observed. **Conclusion:** The present study reveals that skin problems are quite common among elderly. They develop wide variety of physiological and pathological skin changes. A thorough knowledge of physiologic and pathologic skin changes in the geriatric population can strengthen the dermatologists hand in the management of such cases.

Keywords: Ageing, Elderly, Dermatoses, Pruritus, Xerosis, Eczema.

Introduction

Ageing is a "biological reality, which has its own dynamics which is beyond human control. A person aged 60 years or above is defined as "elderly" or "Senior citizen."⁽¹⁾ Ageing is a natural process. In the words of Seneca; "Old age is an incurable disease". But more recently, Sir Sterling Ross said "You do not heal old age. You protect it; you promote it; you extend it".⁽²⁾ It is a complex process, which results in progressive decline in the function due to the accumulation of molecular damage over time.⁽³⁾ Geriatric health care has been considered as an emerging issue due to increase in life expectancy. Cutaneous lesions are more common among the elderly due to ageing, which causes a decline in the function of the skin. Skin mirrors the first sign of natural ageing, the maintenance and improvement of its quality have gained particular attention. Elderly people are predisposed to certain dermatological disorders because of various senile changes in the skin which occur as a result of the combination of cumulative Intrinsic and Extrinsic ageing. India is the second largest populated country in the world, with 72 million elderly persons above 60 years of age as of 2001 and the number is likely to increase to 179 million in 2031 and further to 301 million in 2051.⁽⁴⁾ With this reference the present study was undertaken to

determine the clinical pattern of Dermatological disorders and their prevalence in Geriatric population, attending tertiary care centre. And to offer them timely care and treatment.

Materials and Methods

The present study was a Hospital-based Cross-sectional Observational study, conducted in the Department of Dermatology, Venereology and Leprosy at R.D. Gardi Medical College and C.R. Gardi Hospital, Ujjain over a period of one and half year. A total of 110 patients with age 65 years and above who presented in our OPD/IPD were chosen as study group after written informed consent.

A detailed history was taken regarding the onset and duration of skin lesions and complete general physical and systemic examination was done. Relevant investigations pertaining to the study which included routine haemogram, biochemical tests, Skin scrapings, nail clipping for fungus, Tzanck smear, skin biopsy were performed wherever needed. Data collected from the study participants was noted in a pre-designed proforma, and results were analyzed. All Statistical analysis was done by the help of statistical software spss 23 version.

Inclusion criteria:

- Geriatric patients above age of 65yrs was selected from OPD of RDGMC.
- Geriatrics who are available at the time of data collection.

Exclusion criteria:

- Patients < 65 years of age.

Results

The following observations obtained in the study and the results were tabulated and analysed. (Table 1) shows. Total of 110 patients 65 years and above studied. 87 (79.1%) were males and 23(20.9%) were females. Thus, the Male: Female ratio was 3.7:1.

Table 1: Shows majority of the geriatrics were male

Sex	No. of Cases	Percentage (%)
Male	87	79.1
Female	23	20.9
Grand Total	110	100.0

(Table 2) shows In this study, 110 Patients were categorized into three intervals. Among the groups, maximum number of patients 65 (59.1%) belonged to age group of 65-70 years followed by 71-76 years (17.3%). Only 3 cases (2.7%) lies in the age group of 89-95 years.

Majority of the male patients belonged to agricultural field 56 cases (50.9%) and most of the female patients were housewives. Maximum number of patients 89 (80.91%) were from rural areas and from Lower socio-economic status 70 (63.6%) formed the major bulk of the study.

Among the various dermatoses observed in our study, Generalized Pruritus was the commonest complain noted in 38 (34.5%) cases. Of which 18 (47.37%) of them had senile pruritus and rest were associated with cutaneous and systemic dermatoses.

Table 2: Socio demographic profile of the study subjects

	No. of Cases	Percentage (%)
Age (Years)		
65-70	65	59.1
71-76	19	17.3
77-82	16	14.5
83-88	7	6.4
89-95	3	2.7
Education		
Illiterate	64	58.2
Literate	43	39.1
Graduate	3	2.7
Occupation		
Agricultural	56	50.9
Driver	2	1.8
Housewife	14	12.7
Retired	9	8.2

Marital status		
Married	105	95.5
Unmarried	3	2.7
Divorced	2	1.8

The most common systemic association among Geriatric population were Diabetes Mellitus and Hypertension shown in (Table 3).

Table 3: Shows systemic ailments Associated with cutaneous disorders

Associated disease	No. of Cases	Percentage (%)
DM	25	22.73
HTN	17	15.45
DM with HTN	6	5.45
Anaemia	4	3.64
Asthma	3	2.73
BPH	1	0.91
CAD	2	1.82
HIV	2	1.82
TB	3	2.73
Nil	47	42.73
Grand Total	110	100.0

(Table 4) shows. Almost all patients had Physiological changes but xerosis was the commonest observed in this study and was seen in 96(87.27%) cases, followed by Wrinkling in 81(73.64%) cases, IGH was seen in 62 (56.36%) cases, Senile Lentigens was seen in 47 (42.73%) cases and Senile comedones in 33 (30.0%) cases.

Table 4: Shows Physiological Changes in elderly

Conditions	No. of Cases	Percentage (%)
Xerosis	96	87.27
Wrinkling	81	73.64
Idiopathic Guttate Hypomelanosis	62	56.36
Senile Lentigens	47	42.73
Senile Comedones	33	30.0

(Table 5) shows In present study, Eczematous conditions were observed in 36 (32.73%) patients. Different types of eczema were noted in this study. Among various types of eczemas, Photodermatitis was the commonest noted in 8 cases (7.27%). followed by Stasis eczema in 6 cases (5.45%), Hand eczema in 5 cases (4.55%), Contact dermatitis in 4 cases (3.64%), 3 (2.73%) cases each of Asteatotic eczema, Chronic eczema, 2 (1.82%) cases each of Nummular eczema, Atopic dermatitis, Prurigonodularis was seen. Only 1 case (0.91%) of Seborrheic dermatitis was seen.

Infections and infestations were seen in 34 (30.91%) cases. Among various infections, viral infection was the commonest seen in 12 (10.91%) cases

followed by bacterial infection in 9 (8.18%) cases. Infestation was seen in 3 (2.73%) cases.

Papulosquamous disorders were seen in 7(6.36%) cases, 5 cases (4.55%) had Psoriasis and 2 (1.81%) cases had Lichen planus.

Bullous disorders were seen in 3 patients, of which 2 (1.82%) cases had Bullous pemphigoid and only 1 case (0.91%) of Pemphigus vulgaris was seen.

Senile purpura was the commonest vascular disorder seen in 5 cases (4.55%) and 1 case (0.91%) of Pigmented purpuric dermatoses was seen. Only 1 case of pigmentary disorder was seen which was of vitiligo (0.91%).

Various benign tumours present in patients were noted, they were Seborrheic keratosis, Cherry Angioma, Achrochordons, Dermatitis papulosa nigra were tabulated in (Table 5). The incidence of benign tumours exceeds the number of cases because most patients had more than 1 type of tumour. Seborrheic keratosis was the most common benign tumor reported in this study in 63 (57.27%) cases. 1 case of Premalignant tumour was seen, which was Bowen’s disease. Among malignant conditions, 3 (2.73%) cases of Basal cell carcinoma and only 1 (0.91%) case of Squamous cell carcinoma was seen.

Table 5: Pattern of skin diseases in geriatric patients

Conditions	No. of Cases	Percentage (%)
Eczema	36	32.73
Infection and Infestation	34	30.91
Papulosquamous skin disorders	7	6.36
Vascular Disorders	6	5.45
Vesicobullous Disorder	3	2.73
Pigmentary Disorder	1	0.91
Benign Tumours	184	83.63
PMT & MT	5	4.55

Greying of hair was the commonest hair change observed in 91 (82.73%) cases. Out of 87 male patients, 23 (26.44%) had Androgenic alopecia and out of 23 female patients 18 (78.26%) had diffuse hair loss.

The nail changes exceeds the number of cases because some cases presented with more than one nail change due to ageing. Vertical ridging was the commonest physiological nail change seen in 58 (52.3%) cases, followed by loss of lusture in 45 cases (40.91%), Onychomycosis 23(20.91%) cases, Onychorrhexis in 16 (14.55%) cases.

Among miscellaneous dermatoses, Urticaria was seen in 3 cases (2.73%), PMLE in 2 cases (1.82%), and 1 case (0.91 %) each of Favre Racouchot Syndrome, Granuloma annulare, Lichen amyloidosis, and drug reaction were seen.

Table 6: Distribution of benign cutaneous neoplasia

Types of Tumors	No. of Cases	Percentage (%)
Seborrheic Keratosis	63	57.27
Cherry Angioma	53	48.18
Dermatitis papulosa nigra	41	37.27
Achrochordons	27	24.55



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5

Discussion

In this study, a total of 110 patients with age 65 years and above were examined. The eldest patient was of 95 years. Of these, 87 (79.1%) patients were males and 23 (20.9%) were females. In the present study, the number of males outnumbered the females which coincide with most of the other studies.^(5,6,7,8) The mean age in our study was 72.21 years and Male/female ratio was 3.7:1.

Generalized pruritus was the single commonest symptom seen in this study and was presented by 38 (34.5%) cases, of which 18 (47.37%) of them had senile pruritus. And rest were pruritus due to cutaneous or systemic dermatoses. In various other studies, pruritus had been the commonest complaint noted, percentage varying from 29%⁹, 49.6%¹⁰, 62%.⁽¹¹⁾ Patange and Fernandez⁷ in their study noted pruritus in 78.5% of patients, of which 3.8% had senile pruritus and the rest were associated with cutaneous dermatoses (91.1%).

Various physiological changes noted in this study were xerosis, wrinkling, idiopathic guttate hypomelanosis, Senile lentigenes, Senile comedones. Xerosis was the commonest physiological change seen in the present study in 96 (87.27%) cases. Percentage of xerosis noted in various studies were 50.8%,⁽¹¹⁾ 54.9%,⁽¹²⁾ 93%,⁽¹³⁾ 99.8%.⁽¹⁰⁾ The findings of our study is comparable with findings of Gunalan P, Indradevi R, Oudeacoumar P, et al⁽¹³⁾ in which 93% of patients showed xerosis. The higher incidence of xerosis could be attributed due to the less use of emollients and usage of harsher soaps by the subjects of the study who mostly belongs to rural areas.

Wrinkling was the second most common change observed in 81(73.64%) cases. Percentage of wrinkling noted in various studies were 51.7%,⁽¹¹⁾ 88%,⁽¹³⁾ 95.5%⁽¹⁴⁾ and 99%⁽¹⁰⁾ respectively which coincides

with the results of our study. Mostly wrinkling was seen on photo exposed parts like face, neck, dorsa of hands in the form of glyptic wrinkles. The incidence of wrinkling is slightly lower in this study, may be due to increased tolerance of racially pigmented skin to sunlight.

Idiopathic Guttate Hypomelanosis was present in 62 (56.36%) cases. Percentage of IGH in various studies were 24.5%,⁽⁷⁾ 33%,⁽¹³⁾ 45.3%,⁽¹⁵⁾ and in one of the study by Grover and Narasimhalu⁽¹⁴⁾ mention an incidence of 76.5%. The findings were similar with the studies of^(7,13,15) Most of the lesions in our study were seen on photoprotected areas.

Senile lentigens were seen in 47 (42.73%) cases in our study. The incidence of senile lentigens in various studies were 10%,⁽¹⁴⁾ 12%,⁽⁷⁾ 30.3%,⁽¹⁵⁾ 70.6%⁽⁹⁾ respectively. The incidence is well in concordance with the findings of Sheetal MP et al.⁽¹⁵⁾

Senile comedones were observed in 33 (30.0%) cases. The percentage in various studies was 6.5%,⁽¹⁴⁾ 28%,⁽¹³⁾ 31.3%,⁽¹⁵⁾ 81%.⁽¹⁶⁾ The results of Gunalan P, Indradevi R, Oudeacoumar P, et al⁽¹³⁾ were found to be similar with this study. The number of skin changes produced by chronic actinic damage, characterized clinically by the presence of wrinkling, irregular pigmentation, scaling, actinic keratosis, senile comedones, elastosis and malignancy is called as dermatoheliosis.

A wide variety of pathological changes are seen in this study, they were classified into Eczematous dermatoses, Infections and infestations, Papulosquamous disorders, Vesicobullous disorders, Benign and Malignant conditions, Drug reaction and Miscellaneous skin changes.

In this present study, eczematous conditions were seen in 36 (32.73%) cases. The total percentage of eczemas in various studies 24.2%,⁽¹⁰⁾ 31.29%,⁽¹⁷⁾ 40.0%.⁽¹⁵⁾ The findings were found to be similar with the study of Pragma A et al.⁽¹⁷⁾ The percentage of stasis eczema compares well with the study of Beauregard and Gilchrest⁽⁹⁾ and Raveendra L et al.⁽⁸⁾ while incidence of contact dermatitis, asteatotic eczema and atopic dermatitis, compares well with the findings of Raveendra L et al.⁽⁸⁾

Infections and infestations were seen in 34 (30.91%) cases. Viral infections were seen in 12 (10.91%) cases, Fungal infection in 10 cases (9.09%), Bacterial infection in 9 cases (8.18%) and only 3 cases (2.73%) of infestations were seen. The total percentage of Infections and infestations in various studies 32%,⁽¹³⁾ 34.5%,⁽⁷⁾ 43.5%.⁽¹⁴⁾ The prevalence of infective conditions in our study compares well with the observations of Patange and Fernandez⁽⁷⁾ and Gunalan P, Indradevi R, Oudeacoumar P, et al.⁽¹³⁾

In this study, Psoriasis was seen in 5(4.55%) cases, Lichen planus in 2 cases (1.81%). The incidence of Psoriasis in various studies was 2.9%,⁽⁹⁾ 7.43%,⁽¹⁷⁾ 10.5%⁽⁷⁾ respectively. The incidence of psoriasis and

lichen planus in the present study is in concordance with that of Pragma A et al.⁽¹⁷⁾

Vascular disorders were seen in 6 (5.45%) cases, of these senile purpura was seen in 5 (4.55%) cases and only 1 (0.91%) case of Pigmented purpuric dermatoses was seen. The incidence of senile purpura in various studies 4.1%,⁽⁵⁾ 7%,⁽⁸⁾ 9%,⁽⁷⁾ 10%,⁽¹⁴⁾ 30.55%.⁽¹⁸⁾ The incidence of senile purpura in our study is in concordance with the studies (8, 5, 7) while the results of pigmented purpuric dermatoses was similar to that of Pragma A et al was 7 (1.53%).

Pigmentary disorder was seen in only one case which was of vitiligo 1(0.91%). Various studies report an incidence of 0.95%,⁽¹¹⁾ 2.9%,⁽¹²⁾ and in one of the study by Patange and Fernandez⁽⁷⁾ mention higher incidence of vitiligo 19%. The findings of vitiligo are well in concordance with study by Chopra A et al.⁽¹¹⁾

Among the bullous disorders, 2 (1.82%) cases of bullous pemphigoid and only 1(0.91%) case of Pemphigus vulgaris was seen. In a study by Durai et al⁽¹⁰⁾ Bullous Pemphigoid was seen in 8 (1.6%) cases and Pemphigus vulgaris in 9 cases (3.1%) was seen. The findings were similar to that seen in our study.

The incidence of seborrhoeic keratosis and cherry angiomas in our study was 57.27%, and 48.18% respectively. In various studies percentage of seborrhoeic keratosis ranged 43%,⁽¹³⁾ 50.6%,⁽¹⁰⁾ 56%,⁽⁸⁾ 61.2%,⁽⁹⁾ 88%⁽¹⁶⁾ and of cherry angiomas was 37%,⁽⁸⁾ 52.5%,⁽¹⁰⁾ 53.7%,⁽⁹⁾ 63%⁽¹⁴⁾ respectively. The findings of this study are comparable to that of the study by Beauregard and Gilchrest⁹ and Raveendra L et al⁽⁸⁾ for seborrhoeic keratosis. The findings of cherry angiomas in this study compares well with that of Durai et al,⁽¹⁰⁾ Beauregard and Gilchrest⁽⁹⁾ and Raveendra L et al.⁽⁸⁾ Dermatoses papulosa Nigra was seen in 41(37.27%) cases and Achrochordons in 27(24.55%) cases in our study. The findings of Dermatoses Papulosa Nigra compares well with the study of Durai et al⁽¹⁰⁾ while the finding of Achrochordon compares well with that of Raveendra L et al.⁽⁸⁾

In this study, 1 case (0.91%) of Premalignant tumour were seen, which was Bowen's disease. Among malignant condition 1 case (0.91%) of Squamous cell carcinoma and 3 cases (2.73%) of Basal cell carcinoma was seen. Durai et al⁽¹⁰⁾ reported malignancy in 5 cases (1%) The incidence of premalignant and malignant tumours is lower in our study could be because of genetic variability or photoprotective role of melanin in skin types IV/V.

Vertical ridging of nails was the commonest physiological nail change observed in 58 (52.3%) cases, followed by loss of lusture in 45 (40.91%) cases and onychomycosis was seen in 23 (20.91%) cases. The findings of this study are well in concordance with the study by Raveendra L et al.⁽⁸⁾ In another study by Grover and Narasimhalu,⁽¹⁴⁾ mention the higher incidence of 72.5% for vertical ridging 64% for the loss of lusture.

Greying of hair was the commonest hair change observed in 91(82.73%) cases. Diffuse hair loss in elderly women was seen in 18 (78.26%) cases and Androgenic alopecia was noticed in 23 male (26.44%) patients. The percentage of greying of hair in various studies 90%,⁽¹³⁾ 96.8%,⁽⁵⁾ 98%⁽¹⁴⁾ respectively. These findings were found in concordance with our study.

Conclusion

Geriatric dermatology is an emerging branch in 21st century, update of cutaneous manifestation is required. A good number of patients seen by dermatologist belong to geriatric group. The present study reveals that skin problems are quite common among the elderly with male preponderance. The geriatric patients develop wide variety of physiological and pathological skin changes. Early detection and proper management of cutaneous malignancy is crucial to prevent local tissue destruction and metastasis. A thorough knowledge of physiologic and pathologic skin changes in the geriatric population can strengthen the dermatologists hand in the management of such cases.

References

1. World Health Organization. Definition of elderly person. 2013. www.who.int/healthinfo/survey/ageing_definition_older/en/index.html.
2. Yalcin B, Tamer E, Toy GG, Oztas P, Haryan M, Alli N. The prevalence of skin diseases in the elderly: Analysis of 4099 in geriatric patients. *Int J of Dermatol*. 2006;45:672-6.
3. *Rook's Textbook of Dermatology*, Ninth Edition. Edited by Christopher Griffiths, Jonathan Barker, Tanya Bleiker, Robert Chalmers and Daniel Creamer. © 2016 John Wiley & Sons, Ltd. Published 2016 by John Wiley & Sons, Ltd. Companion website: www.rooksdermatology.com
4. Rajan SI, Sarma PS, Mishra US. Demography of Indian aging, 2001-2051. *J Aging Soc Policy* 2003;15(2-3):11-30.
5. Pavithra S, Shukla P, Pai G S. Cutaneous manifestations in senile skin in coastal Goa. *Nepal Journal of Dermatology, Venereology & Leprology*. 2010;9(1):1-6.
6. Darjani A, Mohtasham-Amiri Z, Mohammad Amini K, Golchai J, Sadre-Eshkevari S, Alizade N. Skin Disorders among Elder Patients in a Referral Center in Northern Iran (2011). *Dermatology Research and Practice*. 2011:1-5.
7. Patange S V, Fernandez R J. A study of geriatric dermatoses. *Indian J DermatolVenereolLeprol*1995;61:206-8.
8. Raveendra L. A clinical study of geriatric dermatoses. *Our Dermatol Online*. 2014;5(3):235-239.
9. Beaugard S, Gilchrist BA. A survey of skin problems and skin care regimens in the elderly. *Arch Dermatol* 1987;123(12):1638-43.
10. Durai PC, Thappa DM, Kumari R, Malathi M. Aging in elderly: chronological versus photoaging. *Indian J Dermatol*. 2012 Sep;57(5):343-52. doi: 10.4103/0019-5154.100473
11. Chopra A, Kullar J, Chopra D, Dhaliwal S R. Cutaneous physiological and pathological changes in elderly. *Indian J DermatolVenereolLeprol* ;2000(66):274.
12. Preeja R, Ashok P, Samson JF. A clinical study of geriatric dermatoses. *J. Evolution Med. Dent. Sci*. 2017;6(59):4338-4342, DOI: 10.14260/Jemds/2017/938
13. Gunalan P, Indradevi R, Oudeacoumar P, et al. Pattern of skin diseases in geriatric patients attending tertiary care centre. *J. Evolution Med. Dent. Sci*. 2017;6(20):1566-1570, DOI: 10.14260/Jemds/2017/344
14. Grover S, Narasimhalu CV. A clinical study of skin changes in geriatric population. *Indian J DermatolVenereolLeprol* 2009;75:305-306. PMID: 19439890
15. Sheethal MP, Shashikumar BM. A cross-sectional study on the dermatological conditions among the elderly population in Mandya city. *Int J Med Sci Public Health* 2015;4:467-470.
16. Tindall JP, Smith G. Skin lesions of the aged and their association with internal changes. *JAMA* 1963;186:1039-42.
17. One Year Study of Geriatric Dermatoses at a Rural Hospital, Gujarat.
18. Dhumale SB, Khyalappa R. Study of cutaneous manifestations in geriatrics. *Int J Res Med Sci* 2016;4:1343-6.