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Original Research Article

A clinico-epidemiological study of mucocutaneous disorders in geriatric patients

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ABSTRACT

Background: The study was done to determine clinical patterns and frequency of mucocutaneous manifestations in the elderly. Objectives to study the demographic profile of geriatric patients attending the dermatology outpatient department, JJM medical college, Davanagere and to study the clinical pattern of various mucocutaneous disorders in the geriatric population.
Methods: A cross-sectional study was conducted on geriatric patients. A detailed history and mucocutaneous examinations were done. Skin changes were classified into physiological and pathological changes.
Results: Out of 409 patients, 69.4% were males and 30.6% were females. The age range was from 60 to 74 years, with the mean age being 73.34±6.230 years. Pruritus was the most common complaint. Hypertension, diabetes mellitus (DM), physiological changes, and wrinkling were the associated findings.
Conclusions: This study gives an understanding of the pattern of geriatric dermatoses that aid in early diagnosis and management.

Keywords: Geriatric, Mucocutaneous, Wrinkling, Xerosis, Pruritus

INTRODUCTION

The state of population aging is a dynamic demographic trend throughout the world. Decreased mortality and reduction in fertility rate have resulted in a raised number of elderly persons in the population.[1] Elderly or old age consists of ages nearing or surpassing the average life span of human beings.[2] Rapid population aging which is occurring in almost every country is a demographic transition that is unprecedented and will impact almost all aspects of society.[3]

The government of India adopted the "national policy on older persons" in January 1999 and the policy defines "senior citizen" or "elderly" as a person who is of 60 years of age and above.[2] By 2050, the world's population aged 60 years and older is expected to total 2 billion, up from 900 million in 2015.[4] Currently, one in 12 Indians is elderly, while this ratio is set to increase to one in five in 2050. In absolute terms, India's elderly population is projected to 327 million in 2050 up from 76 million in 2000.[5] The elderly population in Karnataka is 7.7% of the total population and mostly resides in rural areas.[1]

WHO has declared 2020-2030 as the decade of healthy aging and come out with a WHO global strategy and action plan on aging and health. Its main objective is to improve the lives of older people, their families, and the communities in which they dwell.[6]

Rose defines aging as "A persistent decline in the age-specific fitness components of an organism due to internal physiological degeneration."[7] Aging is a biological process that is inevitable and dynamic and aging is characterized by the decline in physiologic reserve capacity and progressive deterioration of many

body systems.[8] Cutaneous aging is caused by both intrinsic aging (genetics, chronological aging) and extrinsic aging (environmental, photoaging).[9]

Because of major advances in the medical field and better socioeconomic conditions, there is a significant increase in life expectancy.[10] The primary healthcare system in our country is not geared up to meet the challenges arising from an increase in the elderly population and the incidence of chronic diseases among the elderly; this will pose an increasing burden to the elderly themselves and their families.[5] To overcome these shortcomings, emphasis on geriatric medicine is the need of the hour.

The present study is done to know the epidemiology and clinical pattern of mucocutaneous manifestations and their frequency in the elderly population.

Objective

Objectives of the study were to study the demographic profile of geriatric patients and to study the clinical pattern of various mucocutaneous disorders in the geriatric population.

METHODS

Source of data

The study was carried out on elderly patients, aged above 60 years attending the Dermatology outpatient department, JJM Medical College, Davanagere with mucocutaneous complaints. A total of 409 patients were included in the study.

Inclusion criteria

Patients above 60 years with mucocutaneous complaints included in the study.

Exclusion criteria

The onset of certain dermatological diseases before 60 years like patients with geno dermatoses which interfere with aging skin were excluded.

Study design

Cross-sectional observational study design was used.

Study setting

Department of Dermatology JJM Medical College, Davanagere.

Study duration

Study carried out for two years, from September 2017 to August 2019.

Study population

All elderly patients, aged above 60 years were included in the study.

Study tools

Pre-tested, semi-structured questionnaire used for study.

The weight of the subjects was recorded by using a standardized adult weighing machine (Zhongshan Camry electronic Co. Ltd, Guangdong, China). The measurement was considered to be the nearest decimal point of 0.5 kg. It was ensured that the weighing machine was regularly standardized and calibrated during the study.

Height was measured with stadiometer to nearest decimal and then converted to meters. Body mass index (BMI) calculated by dividing weight (kg) by height squared (m^2) and obesity defined as BMI greater/equal to 30 kg/m^2.

Method of data collection

A pilot study was conducted before the actual study, following which necessary changes were incorporated into the questionnaire before the actual study. These patients have been excluded from the main study.

Data collection was started after obtaining clearance from institutional ethical committee. Four hundred 9 elderly patients were included in study from whom written informed consent explained in local vernacular language was taken. Data were collected from patients by interview method using pre-tested, semi-structured questionnaire.

the investigations like complete hemogram, random blood glucose level, fasting, and post-prandial blood glucose level, liver function tests, renal function tests, chest X-ray, pus for culture and sensitivity, and skin biopsy were done.

Statistical analysis

The study variables include sociodemographic characteristics, detailed history, mucocutaneous examination and relevant laboratory investigations.

The data was compiled in Microsoft (MS) excel worksheet and analysed using SPSS (statistical package for social sciences) software version 20.0. The descriptive statistics of categorical variables like age, education, gender, and other demographic and clinical patterns of various mucocutaneous disorder variables were summarized in terms of frequency and percentages. A chi-square test was used to find the association between socio-demographic variables and the clinical pattern of various mucocutaneous disorders. Fisher's exact test was used when the expected value of a cell was less than 5, and a $p<0.05$ was considered for statistical significance. Microsoft word and excel have been used to generate graphs and tables.

RESULTS

It was observed that maximum no. of patients were in age group of Young old (60-74) years, males 284 (69.4%), females 125 (30.6%). Male to female ratio in study was 2.2:1. Most of patients 128 (31.3%) were agriculturists.

Table 1: Sociodemographic profile of the study participants, (n=409).

Variables		N	Percentage (%)
Age (years)	Young old (60-74)	329	80.4
	Old old (75-84)	70	17.1
	Very old (>84)	10	2.4
Sex	Male	284	69.4
	Female	125	30.6
Marital status	Married	303	74.1
	Widow	74	18.1
	Widower	30	7.3
	Not married	2	0.5
Education	Illiterate	189	46.2
	Primary	111	27.1
	High school	79	19.3
	Degree	28	6.8
	Postgraduate	2	0.5
Occupation	Agriculturist	128	31.3
	Not working	95	23.2
	Homemaker	79	19.3
	Manual labour	54	13.2
	Shopkeeper/ business	42	10.3
	Clerical	10	2.4
	Professional	1	.2
Socio economic status	Upper class	6	1.5
	Upper middle class	21	5.1
	Middle class	87	21.3
	Lower middle class	227	55.5
	Lower class	68	16.6
Locality	Rural	288	70.4
	Urban	121	29.6
Previous history	Yes	235	57.5
	No	174	42.5
BMI (kg/m^2)	Underweight	28	6.8
	Normal	198	48.4
	Overweight	120	29.4
	Obese	63	15.4

Hypertension commonest associated disease seen in 143 (35.0%) cases, followed by DM in 115 (28.1%) cases.

Generalized pruritus in 220 (53.8%) was commonest primary complaint followed by localised pruritus in 119 (29.1%), cases.

Commonest age-related skin change was wrinkling in 347 (84.8%) cases.

Wrinkling of the skin was one of the commonest findings and was seen in 184 cases (92%).

Table 2: addiction associated disease, primary complaint, age-related wise skin changes among study population, (n=409).

Variables		N	Percentage (%)
Addiction	None	224	54.8
	Smoking	80	19.6
	Smokeless tobacco	38	9.3
	Alcohol	35	8.6
	Beetle nut/pan	32	7.8
Associated disease	DM	115	28.1
	Hypertension	143	35.0
	Cardiac illness	27	6.6
	Cerebrovascular accidents	5	1.2
	COPD	26	6.4
	Epilepsy	3	.7
	Tuberculosis	5	1.2
	Malignancy	1	.2
	HIV	3	.7
	Anemia	23	5.6
	Thyroid disease	5	1.2
	Renal disease	2	.5
	Varicose veins	4	1.0
	Rheumatoid arthritis	1	.2
	Hansen's disease	12	2.9
	Benign prostatic hypertrophy	1	.2
	Others	5	1.2
Primary complaint	Generalized pruritus	220	53.8
	Localized pruritus	119	29.1
	Pain	40	9.8
	Burning sensation	4	1.0
	Unsightly	23	5.6
	Discomfort	3	0.7
Age-related skin changes	Xerosis	205	50.1
	Wrinkles	347	84.8
	Idiopathic guttate hypomelanosis	66	16.1
	Senile lentigens	96	23.5
	Senile comedones	43	10.5
	Seborrheic keratosis	164	40.1
	Cherry angioma	170	41.6
	Dermatosis papulosa nigra	97	23.7
	Senile purpura	15	3.7

Among the pathological conditions, eczematous conditions were seen in many cases, the commonest was Asteatotic eczema 22 (84.8%) cases, followed by allergic contact dermatitis in 20 (4.9%) cases. Benign neoplasms, acrochordon 45 (11.0%) cases, followed by colloid milia 3 (0.5%) cases were seen, among premalignant tumors, Bowen's disease 2 (0.5%) cases were seen, among malignant neoplasms, squamous cell carcinoma 3 (0.7%) cases, followed by basal cell carcinoma 3 (0.5%) cases were seen.

Table 3: Pathological skin changes.

Variables		N	Percentage (%)
Eczema	Allergic contact dermatitis	20	4.9
	Irritant contact dermatitis	10	2.4
	Asteatotic eczema	22	5.4
	Infective eczema	17	4.2
	Photo allergic dermatitis	17	4.2
	Phytophoto-dermatitis	7	1.7
	Nummular eczema	4	1.0
	Seborrheic dermatitis	6	1.5
	Stasis dermatitis	14	3.4
Psycho-cutaneous dermatoses	Prurigonodularis	7	1.7
	Lichen simplex chronicus	24	5.9
	Total	31	7.6
Benign neoplasms	Acrochordon	45	11.0
	Colloid milia	3	0.7
	Dermatofibroma	2	0.5
	Epidermoid cyst	2	0.5
Premalignant neoplasm	Bowen's disease	2	0.5
Malignant neoplasms	Basal cell carcinoma	2	0.5
	Squamous cell carcinoma	3	0.7
	Total neoplasms	7	1.7
Papulo-squamous disorders	Psoriasis	20	4.9
	Lichen planus	8	2.0

Infections were seen in 128 cases (31.2%), of which fungal infections were seen in 82 (20.1%).

Psychocutaneous drmatoses, Lichen simplex chronicus 24 (5.9%) cases were seen.

Papulosquamous disorders, psoriasis 20 (4.9%) cases and Lichen planus 8 (2.0%) cases were seen.

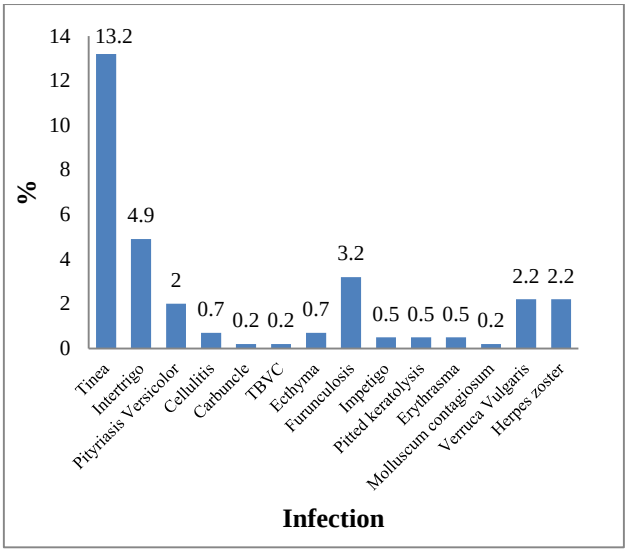

Figure 1: Types of infection-wise distribution of the study population.

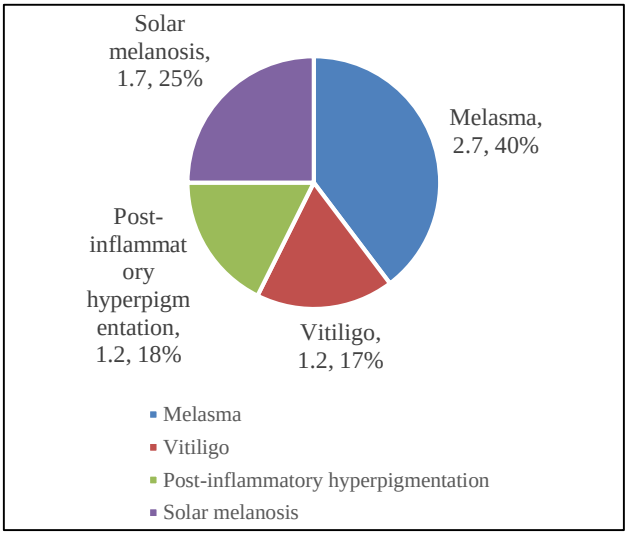

Figure 2: Pigmentary disorders-wise distribution of study population.

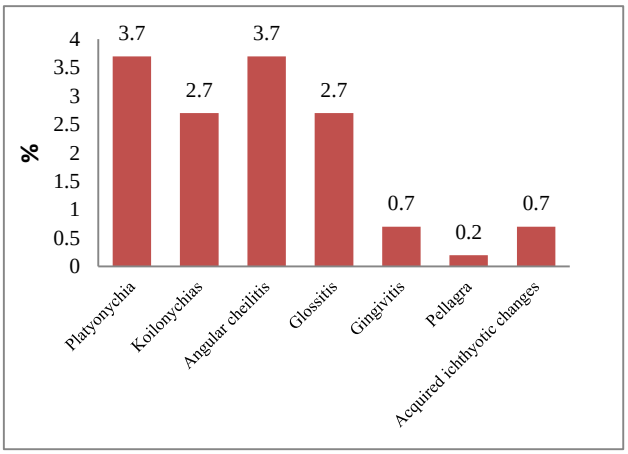

Figure 3: Nutritional-related skin changes wise distribution of study population, (n=409).

Nutritional-related skin changes, platyonychia and angular cheilitis 15 (3.7%) cases were seen. Among hair changes commonest was greying of hair 392 (95.8%) cases, followed by androgenetic alopecia 138 (33.7%) cases. Among nail changes commonest was lack of lustre nails in 167 (40.8%) cases, followed by onychorrhexis in 119 (29.1%) cases, 84 (20.5%) longitudinal melanonychia. Among mucosal changes mucosal pigmentation 119 (29.1%) cases, followed by nicotine-stained teeth 22 (5.4%), cases were seen.

In sites affected, commonest was lower limb 116 (28.4%) followed by face and neck 94 (23.0%) cases, 72 (17.6%) generalised distribution, trunk 71 (17.4%), 34 (8.3%) groin, 32 (7.8%), 20 (4.9%) genital mucosa cases were seen.

Seborrheic keratosis 40%, xerosis 35.7%, eczema 29.6 %, and tinea 16.5% were found to be associated with DM and were statistically significant (p<0.05).

Table 4: Relation b/w diabetes and skin changes.

Diseases	Diabetes, (n=115)		P value
	N	%	
Eczema	32	29.6	<0.05
Xerosis	41	35.7	<0.05
Tinea	19	16.5	<0.05
Senile lentigens	23	20.0	0.02
Senile comedones	17	14.8	0.05
Seborroic keratosis	46	40.0	<0.001
Dermatosis papulosis nigra	30	26.1	0.04
Benign neoplasm (Acrochordons)	16	13.9	0.03
Mucosal pigmentation	27	23.5	0.05
Lack of lustre nails	37	32.2	0.02
Wrinkles	94	81.7	0.02

Out of many miscellaneous dermatoses commonest was calloused heals 15 (3.7%) cases, followed by acute urticaria 6 (1.5%) cases and 5 (1.2%) amyloidosis, acquired ichthyotic changes 3 (0.7%), keloid, xanthoma, scleroderma, granuloma annulare, pellagra 1 (0.2%) were seen.

DISCUSSION

It was observed in our study that the maximum number of patients were in the age group of young old (60-74) years 329 (80.4%), followed by the age group of old old (75-84) years 70 (17.1%), the mean age is 71.3 years and the majority of the patients were males 284 (69.4%), females 125 (30.6%). Male to female ratio in the study is 2.2:1.

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.[11]

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.[13]

In a study by Cinna et al diabetes (28.9%) and hypertension (25.5%) was the commonest associated condition. Our study is comparable to Cinna et al with reference to DM and hypertension.

In this study among papulosquamous disorders, psoriasis 20 (4.9%) cases and Lichen planus 8 (2.0%) cases were seen. In Singh et al descriptive study, psoriasis was seen in 10 cases (5%).[14]

Talukdar et al eczema were found in 34%, seborrheic dermatitis in 16 cases (4.4%), stasis eczema in 15 (4.2%), contact dermatitis in 14 (3.9%) and asteatotic eczema in 8 (2.2%). Our study is comparable to Talukdar et al w. r. t asteatotic eczema.[13]

In our study among infestations scabies 7 (1.7%) cases, followed by pediculosis 1 (0.2%) cases were seen. In a study by Paliwal et al.[18] 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%).

In Singh et al study, seborrheic keratosis was seen in 84 (42%) cases.[14] Cherry angiomas were seen in 102 (51%) cases, dermatosis papulosa nigra was seen in 67 cases (33.5%) and acrochordons were seen in 53 cases (26.5%). Our study is comparable to Singh et al.[14]

In a study by Dhumale et al out of 200 patients' basal cell carcinoma was found in 3 cases and squamous cell carcinoma in 2 cases.[15] Our study is comparable to Singh et al.[14]

Cinna et al found that loss of luster was the commonest nail change seen in 50.8%, vertical ridging was seen in 24%, and onychomycosis in 22.5%. Patange et al observed the loss of luster at 20.5%.[16] Grover et al observed loss of luster in 64%, vertical riding in 72.5%, and onychomycosis in 12%.[19]

A study by Goyal et al showed that the most common six skin disorders were: xerosis (44%), diabetic dermopathy (36%), skin tags (32%), cutaneous infections (31%), and pruritis and seborrheic keratosis-30% each, respectively.[17] Xerosis accounted for the most common skin manifestation in our study, 50.1%. Our study is comparable to Goyal et al w. r. t. xerosis, seborrheic keratosis and acrochordons.[17]

CONCLUSION

Geriatric dermatoses are different in different populations. As there is a significant geriatric population, the increased emphasis on geriatric medicine is inevitable. The present study helps in providing a greater

understanding of the pattern of geriatric dermatoses that aid in early diagnosis and management. Hypertension and DM was the most commonly associated systemic diseases. DM was associated with seborrheic keratosis and xerosis.

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