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SKIN VERSUS SYSTEMIC DISEASES IN GERIATRIC POPULATION: A CROSS SECTIONAL STUDY

Dermatology

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ABSTRACT

BACKGROUND: It is common to see physiological and pathological cutaneous changes in geriatric people. Systemic diseases may coexist with these cutaneous changes.

AIM: To study the patterns of physiological and pathological conditions and associated systemic diseases in geriatric people and to analyse the data to findout whether any association is there between the cutaneous and systemic conditions.

METHODS AND MATERIALS: 200 patients of 60yrs and above were taken into the study.

RESULTS: Pruritus was the most common complaint. Xerosis was the most common physiological condition and in pathological conditions infections were the most common. Hypertension is most common systemic disease associated. Significant association is seen between some cutaneous and systemic diseases.

CONCLUSION: Distribution of cutaneous conditions and systemic diseases and association between these conditions is studied.

KEYWORDS

geriatric dermatoses, cutaneous changes, systemic diseases.

INTRODUCTION :

Aging is a biological reality in which there is progressive functional decline due to a series of molecular changes occuring over time[1]. The geriatric population is composed of persons above 60 years of age [2]. As of 2001, there are 72 million elderly persons above 60years in India and the number is likely to increase to 179 million in 2031 [3]. Average life span has increased considerably over years as the standards of living and health care services are improved. Like all other organs human skin also undergoes chronological ageing and is susceptible to skin disorders due to structural and physiological changes in response to intrinsic and extrinsic factors [1]. This study was undertaken to study the spectrum of cutaneous manifestations and prevalence of physiological and pathological changes and associated systemic diseases in elderly people.

MATERIALS AND METHODS:

The study was carried out on 200 patients of 60yrs and above, who attended the outpatient department or admitted as inpatients in department of dermatology, venereology and leprosy at Dr. PSIMS & RF, Gannavaram, Andhra Pradesh. A detailed cutaneous and systemic examination was carried out after obtaining informed consent. Relevant routine investigations such as hemogram, biochemical tests and specific investigations such as skin biopsy and cytology were performed. The study has been duly approved by the Hospital Ethics Committee.

Skin changes observed due to ageing were classified as physiological and pathological, findings were collated in a master chart and results were analysed.

RESULTS:

The following observations were made in the study. Total 200 patients with dermatoses were enrolled, all are above 60 years of age. Of the 200 patients, males are 87 (43.5%) and females are 113 (66.5%).

Pruritus was the commonest complaint in 104 patients of which 16 patients (8%) are having senile pruritus and the remaining had associated cutaneous disorders.

All the patients were found to have one or the other physiological changes. Xerosis was commonest, seen in 175 patients (87.5%) followed by wrinkling in 162 patients (81%), IGH in 78 patients (39%), senile comedones in 18 patients (9%) and senile lentigenes in 26 patients (13%).

Pathological dermatoses are as shown in table1.

Table 1. Pattern of geriatric pathological dermatoses.

S.no	Condition	no. of cases	percentage (%)
1	**Infections**	**69**	**34.50%**
	Superficial fungal	**42**	**21**
	a) Dermatophytosis	26	13
	b) Pitysiasis Versicolor	4	2
	c) Onychomycosis	9	4.5
	Viral	**15**	**7.5**
	a) Herpes Zoster	8	4
	b) Verruca vulgaris	5	2.5
	c) Molluscum contagiosum	2	1
	Bacterial	**8**	**4**
	a) Furunculosis	6	2
	b) Cellulitis	2	1
	Mycobacterial		
	Hansens	1	0.5
	Infestations		
	Scabies	7	3.5
2	**Eczemas**	**68**	**32**
	a) lichen simplex chronicus	26	13
	b) Asteatotic eczemas	12	6
	c) Contact dermatitis	8	4
	d) Seborrheic dermatitis	6	3
	e) PMLE	9	4.5
	f) Chromic actinic dermatoses	7	3.5
3	**Papulosquamous**	**13**	**6.5**
	a) Psoriasis	9	4.5
	b) Lichen planus	4	2
4	**Pigmentary**	**5**	**2.5**
	a) Vitiligo	4	2
	b) Facial melanosis	1	0.5
5	**Benign tumours**	**136**	**68**
	Seborrheic keratosis	108	54
	Dermatosis papulosa nigra	86	43
	Achrocordons	28	14
	Melanocyte Naevi	7	3.5
	Cherry angiomas	62	31
	Sebaceous cyst	2	1

6	**Miscellaneous**	**31**	**15.5**
	chronic urticaria	11	5.5
	chronic non healing ulcers	7	3.5
	post herpetic neuralgia	6	3
	keloids	4	2
	erythroderma	3	1.5

Among all the dermatoses infections are most common seen in 69 patients (34.5%) [table 1], of which most common is the superficial fungal infections seen in 42 (21%) patients. In non infectious dermatoses, most common were the eczemas seen in 68 patients (32%).

No Premalignant or malignant tumors are seen in this study. Benign skin tumors were seen in 136 patients (68%). Most of the patients had more than one type of benign tumor.

116patients (58%) had associated systemic illness. Among them hypertension is the most common associated systemic condition seen in 52 patients (26%) followed by Diabetes mellitus seen in 36 patients (18%), in 22 patients (11%) both the conditions were seen. Systemic conditions seen in the patients were shown in the table 2.

Cutaneous changes were compared with systemic conditions and P values are calculated and the significant P values are shown in the table 3.

Table 2. Associated Systemic Conditions.

S.no	Condition	no. of cases	percentage (%)
1	Hypertension	52	26
2	Diabetes mellitus	36	18
	Both	22	11
3	Ischemic Heart Disease	12	6
4	Cataract	14	7
5	Bronchial asthma	9	4.5
6	Renal (AKD, CKD)	8	4
7	Thyroid	6	3
8	varicose veins	4	2

Table 3.

S.no	CutaneousCondition	Systemic Condition	p
1	cherry angiomas	Hypertension	0.001
2	superficial fungal	Hypertension	0.003
3	Wrinkling	Hypothyroidism	0.02
4	Bacterial infections	Cataract	0.03
5	Senile comedones	Respiratory Conditions	0.04

DISCUSSION :

A total of 200 patients of age varying from 60 years to 89 years were included in this study of these 113 patients (66.5%) were females and 87 patients (43.5%) are males. In this study females outnumbered males which coincide with the study of Lane and Rockwood[4] while males outnumbered in most of the other studies[5][6][7].

Pantage and Fernandez noted pruritus in 78.5% of their patients[6] which is higher than our study and 3.8% with senile pruritus which is lower than this study.

According to the study of Sandhyarani[8],infections (26.4%) are the most common dermatoses followed by eczemas(22.4%) and papulosquamous disorders(10.4%) which is similar to our study.

Eczemas was found to be the most common dermatoses in studies done outside india with prevalence range from 20.4% to 58.7%. [8]. This shows that developed countries have higher prevalence of eczematous dermatoses compared to infections because of their higher living standards, difference in lifestyle and lesser population.

Skin infections formed the major group of skin problems in the elderly. Elderly individuals have an increased susceptibility to skin infections because with age, immunity and integrity of skin declines which predisposes them to infections. [1]

In Benign skin tumors seborrheic keratosis was the most common in our study (54%) which is higher than pantage and Fernandez study (37.5%) [6]. Cherry angiomas were common in Reetu Agarwal study [1] with incidence of 91.8% but in our study incidence is low with 31%.. This difference in pattern of conditions could be due to regional variations.

The high incidence of xerosis (87.5%) is comparable to other studies [3][9][10]. This high incidence of xerosis could be attributed to less use of emollients and usage of harsher soaps by the subjects of the study who mostly hail from semi rural areas.

There were very few studies showing the association of cutaneous dermatoses with specific systemic diseases like diabetes or cardiovascular conditions in the general population but not specifically in the geriatric age group.

About 58% of patients had comorbid conditions in our study which is comparable to study conducted by Leena Raveendra (54%) [3]. Among systemic diseases Hypertension was found to be commonly associated (26%) followed by diabetes mellitus (18%) which coincide with the study conducted by Leena Raveendra [3] and Reetu Agarwal [1] in which Hypertension was the commonest.

Our study analysed the significance of association of cutaneous changes and systemic conditions using P values which is not done in other studies and found the significant association between hypertension and superficial fungal infections, wrinkling and hypothyroidism, senile comedones and respiratory conditions ,bacterial infections and ophthalmological conditions like cataract and cherry angiomas and hypertension.

CONCLUSION:

Through this study we conclude that significant association is there between cutaneous changes and systemic diseases, as found between hypertension and superficial fungal infections, wrinkling and hypothyroidism, senile comedones and respiratory conditions, bacterial infections and ophthalmological conditions like cataract and cherry angiomas and hypertension. So far no other studies are available to compare these results.

we can take preventive measures and can give awareness to the patient regarding cutaneous changes by knowing the significant associated conditions in geriatric population.

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