International Journal of Biotechnology and Clinical Medicine ISSN 2583-4665
Vol.2, No.3, July - Sep 2023, pp. 09~13

THE PHYSIOLOGICAL AND PATHOLOGICAL SKIN CHANGES IN GERIATRIC POPULATION - A CROSS SECTIONAL STUDY

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Article Info

Article history:

Received July 25th, 2023
Revised August 12th, 2023
Accepted September 9th, 2023

Keyword:

Malignant tumors
Extrinsic aging
Intrinsic aging
Drug discovery
Geriatric dermatoses

ABSTRACT

The present study was a hospital-based study conducted in Sri Lakshmi Narayana Medical College and Hospital. The study population consisted of geriatric patients aged 60 years and above attending the dermatology outpatient departments during the study period from January 2019 to March 2020. Two hundred and thirty patients were included in the present study. Of these, the majority were in the age group of 60- 69, accounting for 85.6% (n=230). Male patients were 124 (53.9%), and female patients were 106 (46.1%) in the present study out of the total 230 study population. Among the physiological manifestations, wrinkling was the commonest seen in 89.6% of the patients, followed very closely by greying of hair in 81.7%. Among the pathological skin conditions, the commonest manifestation was infections, accounting for 27.8%, followed by papulosquamous disorders (21.3%). The differences in comparison to similar studies may be due to geographical variations, living conditions, occupation conditions, and study characteristics.

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How to Cite:

Nasrin M and Jayalakshmi G. The Physiological and Pathological Skin Changes In Geriatric Population - A Cross Sectional Study. IJBTCM. 2023; Volume 2 (Issue 3): Page 09-13.

1. INTRODUCTION

The skin is the body's most complex and biggest organ, covering the whole surface [1]. The natural aging process gradually reduces the optimal functioning and performance of the body's many organs, particularly the skin [2]. This natural decline in the function of the skin is augmented by UV (ultraviolet) and IR (infrared) radiation and environmental carcinogenesis polluted air [3]. Aging occurs at the cellular level, denoting a genetic component and cumulative environmentally induced damage [4]. Mammalian cells can undergo a limited number of cell divisions and then stop irreversibly in a state called replicative senescence, after which they resist mitogenic stimuli [5–7]. United Nations and Indian law have identified people 60 years of age and above as "Senior citizens." The term "elderly‟ is also included in this category. Within the elderly population, it can be classified as oldest old (80+), centenarian (100+), and supercentenarian (110+). WHO estimates that nearly 2 billion people worldwide are expected to be over 60 years old by 2050, which is triple that in 2000 [8,9]. India is the second largest in the world, with 72 million older adults above 60 years in 2001, 71 million in 2001, and expected to be 179 million in 2031 and 301 million in 2051 [10]. Skin problems are common in elderly patients and include many varieties, some specific to old age. Still, the rest are almost always common skin problems, the management of which might be different due to the old age of the patient and existing comorbidities [11,12].

One of the important problems dermatologists face in assessing skin lesions in elderly patients is the increasing difficulty in differentiating pathological skin lesions from physiological ones, as there may be only subtle differences in the two categories with advancing age [13]. The presence of skin changes are among the noticeable signs of aging. Wrinkling and sagginess of skin are manifestations of skin aging. Hair greying and whitening are other signs of aging [14]. Although there are several important factors for aging, like genetic, nutritional, and environmental, the biggest factor remains to be sun exposure. Both declining fertility and an

increase in life expectancy have increased the relative proportion of individuals over 60 in nearly every country [15]. Although this may be a success story for health policies and may reflect the socio-economic improvement of the particular country, the society needs to be well adapted to improve the status and health of older people, whose numbers will increase progressively. Changing nations' demographics, including increased living standards, nutrition, hygiene, and improved health care system, has considerably improved the average life span compared with the previous century. With the increase in the geriatric population and their related health problems, detailed study regarding the physiological and pathological changes is the need of the hour. Hence, this study was undertaken. Patients above 60 years were considered for this study.

2. MATERIALS & METHODS

The study was conducted as a cross-sectional study in Sri Lakshmi Narayana Institute of Medical Sciences (SLIMS), Puducherry - 605 502. This study was undertaken in our hospital's outpatient Department of Dermatology (DVL) from January 2019 to March 2020. The study population included all patients over 60 who attended the outpatient department throughout the study period, with a sample size of 230 individuals using the universal sampling approach. Before the start of the trial, the Institutional Ethics Committee gave its approval. Each participant was explained in detail about the study and informed consent was obtained prior to the data collection. All Patients above 60 years attending OPD and IPD of dept of DVL, SLIMS were included in the study. Patients with dermatological conditions that began before age 60 were excluded, including genodermatoses that interfere with aging skin, premature aging syndromes, people with albinism, and hereditary DNA instability disorders. The investigator conducted a thorough head-to-toe assessment for physiological and pathological skin, hair, and nail abnormalities. Medcalc software was used to enter and evaluate data. Proportions and percentages were used to describe the prevalence of various physiological and pathological dermatological manifestations in the geriatric population attending the dermatology OPD and IPD. Chi-square and Fisher‟s exact tests were used for statistical analysis after the results.

3. RESULTS

This cross-sectional study was conducted among two hundred thirty geriatric patients presenting to the dermatology OPD and IPD. The consent form was taken before the interview. A pre-structured proforma was used to take detailed history and examination. Data analysis was performed for all the participants. The highest number of patients in the present study were in the age group of 60-69 years (85.6%), followed by 10.8% in the age group 70-79 years and 3.4% in the >/= 80 years age group. In the present study, there were more male patients (53.9%) than female patients (46.1%).

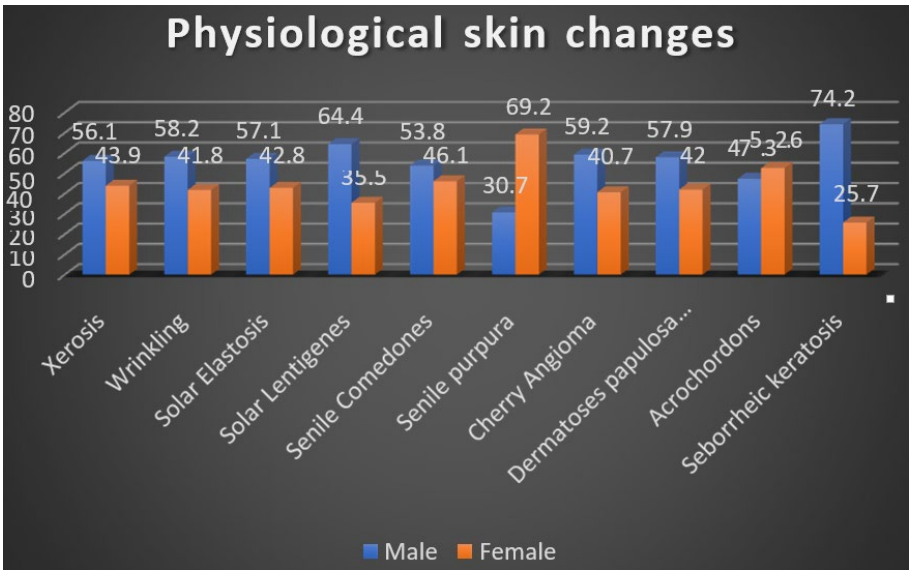

Figure 1. Physiological skin manifestations in males and females.

The occupation of the maximum number of the study population was agriculture 35.2%, homemakers comprised 19.6%, 16.5% were involved in business, 16.5% were retired, and 12.2% practiced other occupations.

As depicted in the below Figure 4, wrinkling (89.6%) was the most common physiological manifestation. Other skin manifestations were xerosis 61.3%, Solar elastosis 12.2%, Solar lentigines 19.6%, and Senile comedones 11.3%. In the vascular changes, cherry angioma comprised 23.5%, senile purpura 5.7%. The most common benign skin tumor was DPN (46.5%), followed by acrochordons (24.8%) and seborrhoeic keratosis 15.2%. IGH (18.8%) was the most common pigmentary manifestation, followed by melasma (8.3%). The most common manifestation of nail changes was loss of luster (57%), and the least common was nail pitting (8.7%). Other nail manifestations included nail ridging at 40.4%, nail dystrophy at 26.1%, and nail thickening at 17.4%. The most common hair manifestation was greying of hair (81.7%) and androgenic alopecia 32.2% (Figur 1). In the present study, wrinkling, seborrhoeic keratosis, nail thickening, hair greying, and androgenic alopecia were significantly higher in males. Melasma was found to be significantly higher in females. Xerosis, Solar elostosis, Senile lentigenes, Senile commodones, Senile purpura, Cherry angioma, DPN, Acrochordons, IGH, Loss of luster of nails, Nail dystrophy, Nail pitting, Ridging were found to be equal in males and females (Figure 2).

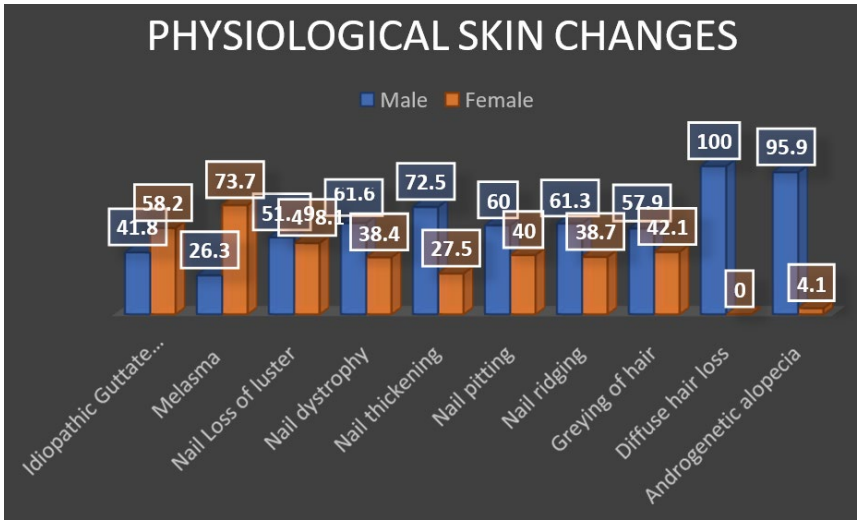

Figure 2: Physiological skin manifestations in males and females.

DM was most common among the associated comorbidities (Figure 3), accounting for 52.5% (n=40), followed by hypertension at 25%. Other comorbidities were hypothyroidism 7.5%. Ischemic heart disease (5%), Alcoholic liver disease, COPD, and Peptic ulcer each account for (2.5%). Infections and infestations (Figure. 8) were the most common in the pathological changes, accounting for 27.8%.(n=230). In infections, fungal infections (48%)(n=64) were the most common in fungal infections. Tinea corporis was most common, accounting for 11 cases 35.5% (n = 31), and at least were Tinea facei and Tinea pedis accounting for 1 case each. Other fungal infections were 6 cases of paronychia, 4 cases of Intertrigo, 3 cases of Tinea cruris and Tinea versicolor, and 2 cases of candidiasis. Bacterial infections accounted for 36% (n = 64), and the most common were folliculitis and erythrasma, accounting for 7 cases each, 4 cases of cellulitis, 3 cases of pitted keratolysis, and 2 cases of furuncle, which was the least reported. Viral infections constituted 11% (n=64), which included 4 cases of herpes zoster and 3 cases of viral warts. The least common (5%) (n=64) was parasitic infestations, including 1 case of cutaneous larva migrans and 2 cases of scabies. Papulosquamous disorders accounted for (21.3%). Among the papulosquamous disorders, eczema was found in 37 patients (75.6%)(n= 49), followed by psoriasis in 7 (14.2%)patients, lichen planus in 3 (6.1%) patients and erythroderma in 2 (4.1%) patients.

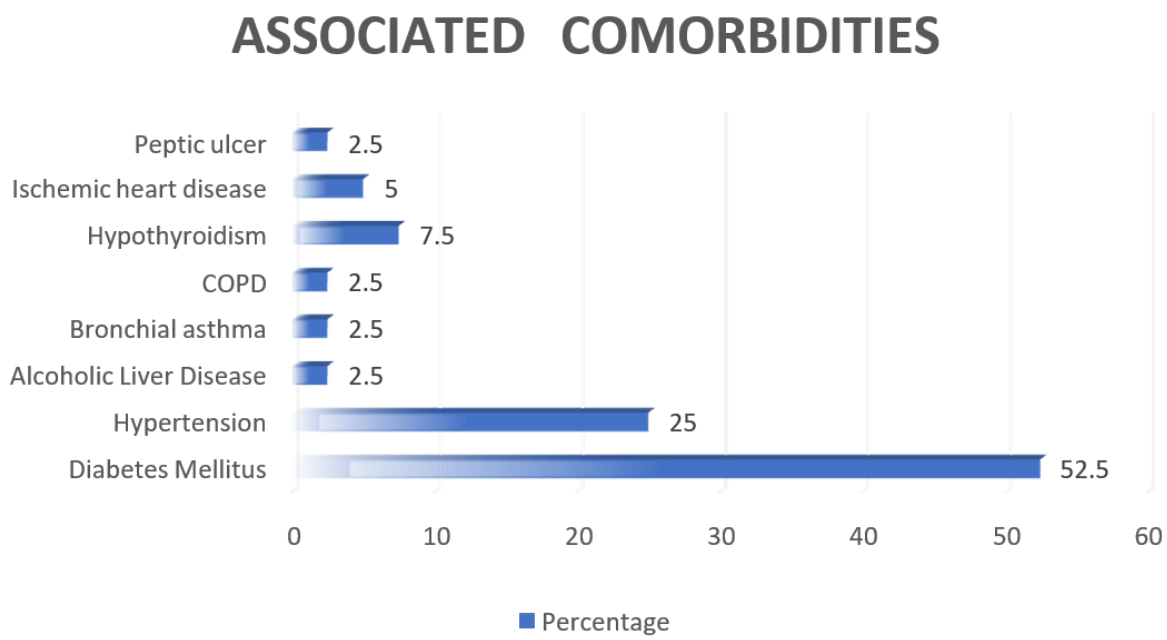

Figure 3. Associated comorbidities.

In 37 cases of eczema, contact dermatitis was most reported, accounting for 29.7% (n=37), followed by chronic eczema at 27%, asteatotic eczema at 24.3%, stasis eczema at 16.2%, foot eczema 2.7%. In psoriasis, 14.2% (n=49) of 5 cases of chronic plaque psoriasis and 2 cases of scalp psoriasis were reported. Tumors accounted for 1.3% of the study population, consisting of 1 BCC (Basal Cell Carcinoma) and 2 cases of pyogenic granuloma. Psychocutaneous disorders accounted for 3.5% of the study population, comprising 6 cases of lichen simplex chronicus and 2 cases of prurigo nodularis. Drug rash reported was the lowest in frequency, with 2 cases of fixed drug eruption (0.9%). As tabulated above, miscellaneous conditions accounted for 13% (n=230) of the study population which included 2 cases each of ABCD(airborne contact dermatitis), CAD (chronic actinic dermatitis), vitiligo, and keloid, 7 cases of PMLE (polymorphic light eruption), 4 cases each of lichen amyloidosis and chronic urticaria, 1 case each of corn foot, DLE (discoid lupus erythematosus, fissure foot, LSA (lichen sclerosis et atrophicus) and pellagra.

4. CONCLUSION

Thorough knowledge of physiologic and pathologic skin changes in the geriatric population can strengthen the role of dermatologists in diagnosing and managing such cases. Besides this, control of extrinsic factors such as exposure to sunlight and pollution, type of occupation, nicotine use, and dietary factors can significantly improve the prevention, control, and treatment of elderly skin diseases, including malignancy prevention.

FUNDING

Nil

ETHICAL APPROVAL

Nil

COMPETING INTEREST

The authors declare no conflict of interest.

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