

The prevalence of skin diseases among the geriatric patients in Eastern Turkey

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Abstract

Objectives: To determine the frequency as well the age and gender distribution of dermatological diseases in patients over 65 years of age.

Methods: The retrospective study included 5961 elderly patients admitted to the Department of Dermatology at the University of Yazunen Yil, Faculty of Medicine and Dermatology Clinic at the Van Research and Training Hospital, Van, Turkey, between December 1, 2007 and December 31, 2010. Their ages, gender and dermatological diagnosis were recorded and analysed using SPSS Version 11.

Results: Of the patients, 2496 (41.9%) were female, and 3465 (58.1%) were male. The age range was from 65 to 102 years, with the mean age being 73.34±6.230 years. The female-to-male ratio was 0.7. The most commonly seen diseases were eczematous dermatitis, 1949 (32.7%); fungal infections 617 (10.4%); pruritus 526 (8.8%); urticaria-angioedema 449 (7.5%); and bacterial infections 417 (7%), respectively. The other commonly seen diseases were xerosis 321 (5.4%); benign neoplasm 171 (2.9%); viral infections 166 (2.8%); acneiform disorders 135 (2.3%); and lichen planus 90 (1.5%).

Conclusion: Dermatological diseases were found to be common among the elderly in the study region. Most of the diseases could possibly have been prevented. As such raising general awareness is critical in minimising the incidence of dermatological disorders.

Keywords: Elderly, Skin disease, Skin aging, Geriatric health care (JPMA 62: 535; 2012).

Introduction

In developed as well as developing countries, the size and ratio of the elderly population has been increasing. Aging is a progressive degeneration process that leads to a decrement in the function and the reserve capacity of the whole body system, including the skin system.¹ During aging, structural and functional changes of the skin system are observed. Among the

elderly, the number of cells decrease and the cell-renewing slows down in the epidermis. The skin water retention capacity decreases as well. In addition, the secretions of sebaceous and sweating glands, and the number of melanocytes and Langerhans cells decrease in the elderly. A decrement in the number of dermal collagen and elastic fibers and a thinning of nails are also seen.¹⁻³ Due to these changes, skin disorders are more commonly seen in the elderly population. Most of these

disorders are not life-threatening, but affect the quality of life. However, there are limited studies on the prevalence, and the age and gender distribution of skin diseases in the elderly.

The current study, aimed at evaluating the frequency as well as the age and gender distribution of the dermatological diseases in patients over 65 years of age in eastern Turkey.

Patients and Methods

We retrospectively analyzed elderly patients who were over 65 years old and admitted to the Department of Dermatology at the University of Yazunen Yil, Faculty of Medicine and Dermatology Clinic at the Van Research and Training Hospital, Van, Turkey, between December 1, 2007 and December 31, 2010. The inclusion criteria were age ≥ 65 years, patients must have approached the dermatology clinic, the presence of history, physical examination, and precise diagnosis in the medical records. Patients <65 years, or with inadequate data in the chart, or without a definite diagnosis were excluded. A total of 5961 patients (65-102 years old), whose charts had adequate data and a definite diagnosis, were included in the study. The patients were classified according to their gender, age and dermatological diagnoses.

Statistical analyses were performed with SPSS version 11.0 (SPSS Inc, Chicago, III, USA). Categorical variables were

worked out as percentages and were compared using the chi-square test. Probability (p) value was considered statistically significant at <0.05 .

Results

Of the total, 2496 (41.9%) patients were female, and 3465 (58.1%) were male. The age range was from 65 to 102 years; and the mean age was 73.34 ± 6.23 years. The female-to-male ratio was 0.7.

Based on the age groups, 3744 (62.8%) patients were in the 65-74 age group, 1842 (30.9%) patients were in the 75-84 age group, and 375 (6.3%) patients were in the over-85 age group. Ages and gender distributions were also noted (Table-1).

The most commonly seen diseases were eczematous dermatitis (32.7%), fungal infections (10.4%), pruritus (8.8%), urticaria-angioedema (7.5%) and bacterial infections (7%),

Table-1: Gender distribution according to age group (n=5961).

Age groups	Male (%)	Female (%)	Total (%)
65-74 years	2146 (36%)	1598 (26.8%)	3744 (62.8%)
75-84 years	1122 (18.8%)	720 (12.1%)	1842 (30.9%)
≥ 85 years	197 (3.3%)	178 (3%)	375 (6.3%)
Total	3465 (58.1%)	2496 (41.9%)	5961 (100%)

Table-2: Distribution of skin diseases according to gender.

Disease	Total		Male		Female		p
	No.	%	No.	%	No.	%	
Dermatitis and eczema	1949	32.7	1108	18.6	841	14.1	0.001*
Pruritus	526	8.8	317	5.3	209	3.5	0.001*
Xerosis	321	5.4	193	3.2	128	2.2	0.001*
Infections	617	10.4	340	5.7	277	4.7	0.009*
Fungal infections	417	7	243	4.1	174	2.9	0.001*
Bacterial infections	166	2.8	98	1.7	68	1.1	0.019*
Viral infections	49	0.8	32	0.5	17	0.3	0.032*
Scabies							
Urticaria-angioedema	449	7.5	258	4.3	191	3.2	0.001*
Neoplasias	171	2.9	107	1.8	64	1.1	0.001*
Benign	38	0.6	27	0.5	11	0.2	0.009*
Premalign	37	0.6	19	0.4	18	0.3	0.869
Malign							
Papulosquamous disease	128	2.2	65	1.1	63	1.1	0.859
Psoriasis	90	1.5	55	0.9	35	0.6	0.034*
Lichen planus	15	0.3	6	0.1	9	0.2	0.438
Parapsoriasis							
Acneiform disorders	135	2.3	66	1.1	69	1.2	0.795
Disorders of skin appendages	84	1.4	48	0.8	36	0.6	0.189
Disorders of hairs	38	0.6	21	0.4	17	0.3	0.516
Disorders of nails							
Bullous disease	73	1.2	48	0.8	25	0.4	0.007*
Bullous pemphigoid	46	0.8	37	0.6	9	0.2	0.001*
Pemphigus							
Callus	86	1.4	58	1	28	0.5	0.001*
Vitiligo	60	1	41	0.7	19	0.3	0.004*
Others	466	7.8	278	4.6	188	3.2	0.001*
Total	5961	100	3465	58.1	2496	41.9	0.015

* p < 0.05, statistically significant.

Table-3: Distribution of skin diseases according to age group.

Disease	Total		65-74 years		≥75years		p
	No.	%	No.	%	No.	%	
Dermatitis and eczema	1949	32.7	1212	20.3	737	12.4	0.001*
Pruritus	526	8.8	324	5.4	202	3.4	0.001*
Xerosis	321	5.4	204	3.4	117	2	0.001*
Infections							
Fungal infections	617	10.4	429	7.2	188	3.2	0.001*
Bacterial infections	417	7	260	4.4	157	2.6	0.001*
Viral infections	166	2.8	100	1.7	66	1.1	0.008*
Scabies	49	0.8	27	0.4	22	0.4	0.474
Urticaria-angioedema	449	7.5	274	4.6	175	2.9	0.001*
Neoplasia							
Benign	171	2.9	112	1.9	59	1	0.001*
Premalign	38	0.6	24	0.4	14	0.2	0.104
Malign	37	0.6	19	0.3	18	0.3	0.869
Papulosquamous disease							
Psoriasis	128	2.2	82	1.4	46	0.8	0.001*
Lichen planus	90	1.5	62	1	28	0.5	0.001*
Parapsoriasis	15	0.3	8	0.1	7	0.1	0.796
Acneiform disorders	135	2.3	89	1.5	46	0.8	0.006*
Disorders of skin appendages							
Disorders of hairs	84	1.4	52	0.9	32	0.5	0.028*
Disorders of nails	38	0.6	23	0.3	15	0.3	0.194
Bullous disease							
Bullous pemphigoid	73	1.2	34	0.6	39	0.6	0.557
Pemphigus	46	0.8	28	0.5	18	0.3	0.14
Callus	86	1.4	52	0.9	34	0.5	0.051
Vitiligo	60	1	35	0.6	25	0.4	0.196
Others	466	7.8	294	5.1	172	2.7	0.001*
Total	5961	100	3744	62.8	2217	37.2	0.001

* p < 0.05, statistically significant.

respectively. All the data was sub-divided into gender-based categories (Table-2). The other commonly seen diseases were xerosis (5.4%), benign neoplasm (2.9%), viral infections (2.8%), acneiform disorders (2.3%), and lichen planus (1.5%).

The most frequent types of eczematous dermatitis were contact dermatitis (72%), seborrheic dermatitis (10%), nummular dermatitis (7.8%), atopic dermatitis (5%) neurodermatitis (3.6%) and intertrigo (1.6%), respectively. The commonly seen fungal infections were tinea pedis (48.5%), tinea unguium (28.4%), tinea corporis (13.6%), tinea versicolor (5.7%), tinea inguinalis (3.2%) and candidiasis (0.6%), respectively.

The frequently seen bacterial infections were pyoderma (84.6%), cellulitis (10.3%), leprosy (1.9%), erythrasma (1.5%), cutaneous anthrax (1.2%), and tuberculosis (0.5%), respectively. The most frequent viral infections were herpes zoster (35.5%), warts (44%), and herpes labialis (20.5%). Of malignant neoplasms, the frequency of basal cell carcinoma was 83.3%, Kaposi sarcoma was 10.8%, malign melanoma was 2.7%, and Paget disease was 2.7%. Statistically significant differences in gender and the cutaneous disorders were compared with chi-square test (p < 0.05). In males dermatitis and eczema, pruritus, xerosis, infections, urticaria-angioedema, benign and premalign neoplasia, lichen planus, bullous diseases, callus and vitiligo

were significantly more common (p < 0.05).

Within the two different age groups (Table-3), the three most frequent diseases were as follows: in the 65-74-year-age group, eczematous dermatitis, fungal infections, pruritus; in the ≥75-year-age group, eczematous dermatitis, pruritus, and fungal infections. Dermatitis and eczema, pruritus, xerosis, bacterial, viral and fungal infections, urticaria-angioedema, benign neoplasia, psoriasis, lichen planus, acneiform disorders, hair disorders were more common in the 65-74-year-age group (p < 0.05).

According to seasonal distribution, 1500 (25.2%) patients were admitted to the clinic in spring, 1629 (27.3%) patients in summer, 1333 (22.4%) in fall, and 1498 (25.1%) in winter.

Discussion

Worldwide as well as in Turkey, the elderly population has been increasing.^{4,5} In Turkey, the population over 65-year-old, comprised 5.7% of the general population in 2000. However, the elderly population percentage increased to 7%, which means over 5 million population, in 2009.^{5,6} Thus, the importance of skin disorders in the elderly has been increasing in the world. However, there are limited studies on skin diseases in elderly populations.^{4,7-9} This is the first study that investigates

the prevalence, and the age and gender distribution of skin diseases in the elderly patients in eastern Turkey.

In our study, the most frequent disease group was eczematous dermatitis (32.7%). In elderly population, contact dermatitis and seborrheic dermatitis are more commonly seen.¹⁰ Contact dermatitis is an important medical problem in elderly patients who have increased sensitivity to the irritants and allergens due to epidermal barrier dysfunction.¹¹ Besides, the eczematous lesions are medically resistant in such patients.¹⁰ The frequency of dermatitis was detected from 16.3% to 58.7% in previous studies.^{4,7-9} The frequency of dermatitis in our study was compatible with these findings.

Infectious dermatosis is commonly seen in elderly patients. Several factors, including impaired immune function, thinning of skin, dryness and decreased blood flow, lead to delay in the healing process. In addition, an epidermal damage secondary to itching, which is more common in the elderly, enhances bacterial entrance into the skin.^{1,3,10} The frequency of fungal infections was 38% and viral infections was 12.3% in one study.⁴ However, the frequency was 3.4% and 4.0%, respectively in another study.⁹ The frequency of onychomycosis was approximately 40% in patients over 60 years old; the frequency of tinea pedis was around 80% in the same age group.¹ In our study, the frequency of fungal infections was 10.4%. Of the fungal infections, the frequency of tinea pedis was 48.5%.

Of the viral infections, warts (44%) and herpes zoster (35.5%) were frequently seen. In previous studies, herpes zoster was the most commonly seen, followed by warts. The frequency of herpes zoster, warts and herpes simplex infections were 78.4%, 16.4%, 4%, respectively in one study⁷ and were 52.1%, 33.8%, 13.9% in another.⁴ The reactivation of varicella zoster virus usually causes herpes zoster infection in elderly patients.^{1,12} Due to the weakening of the cellular immune system and delay in the healing process, the recovery time from the zona zoster infections can be longer in elderly patients. Additionally, post-herpetic neuralgia usually is not encountered in patients below 40, but is seen in about 50% of the patients over 70.¹ The other frequently seen skin disease was bacterial infections. In our study, we also determined leprosy (1.9%), cutaneous anthrax (1.2%) and tuberculosis (0.5%) that were not present in the other studies.

Itching is a common symptom in elderly people. In different studies, the frequency of itching was found from 1.2% to 14.2%.^{4,7-9} The itching in elderly people is related to skin dryness.^{1,7} The frequency of pruritus was 8.8% and xerosis was 5.4%. Itching and skin dryness increases with aging that is related to decreased secretion activity of adipose tissues and sweating glands, and not using moisturising cream after having frequent and warm baths. Skin dryness increases especially in winters.^{4,13} The ways to prevent skin dryness include decreasing the frequency of having baths, minimising the use of soap,

avoiding the use of a coarse bath-glove, and using moisturising cream after having baths.¹³ In addition to skin dryness, itching may occur as a result of several etiological factors (10-50%) including diabetes mellitus, chronic renal failure, thyroid disease, liver dysfunction, neuropathies, malignant neoplasm such as lymphoma and leukaemia, anaemia, polycythemia vera, vitamin A toxicity, and multiple medication use.^{1,4,13-15} If the patient with itching does not respond to general preventive approaches and moisturising cream, the patient should be investigated for systemic diseases.¹⁴

The frequency of drug reaction is generally increased in the elderly population because of multiple drug use.¹⁰ The most common cutaneous drug reactions are itching, exanthema and urticaria in the elderly. In addition, drug-induced auto-immune skin diseases such as pemphigus, bullous pemphigoid and lupus erythematosus may develop as well.¹ The drug reaction frequency in elderly population was 0.5% in one study,⁴ and 1.4% in another.⁷ In our study, the drug reaction was 0.2% that was lower than the previous results. The lower drug reaction frequency in our study may be related to our classification method because we separately evaluated the urticaria group from the drug reaction group. It is important to include drug reactions in differential diagnosis in elderly patients since it may mimic other skin diseases.¹⁰

The risk of developing melanoma and non-melanoma skin cancers significantly increases with aging. This is related to several factors, including decreased DNA-repair capacity, decreased immuno-surveillance, and accumulation of carcinogenic material during aging.¹ In the previous studies, the frequency of benign tumour was between 1.7% and 13.8%; and the incidence of malignant tumour showed variation from 2.1% to 12.6%.^{4,7-9} The most important etiologic factor for skin cancer is sunlight exposure. The duration of exposure to sunlight is longer in the elderly people than the younger lot, and they develop more damage against ultraviolet light due to decreased melanocytes. Therefore, the incidence of skin cancer is higher in the elderly population.^{1,16} In our study, the frequency of pre-malignant and malignant skin tumours (1.2%) was lower than the previous studies. The frequency of benign neoplasm was 2.9%. In our hospital, the patients with suspicious malignant lesions are sometimes referred to the plastic surgery department instead of dermatology which may be the reason of the lower frequency of malignant lesions in our study.

Conclusion

Most of the diseases noted by the study could have been prevented by protective measures. As such, raising the general level of awareness is critical. Health education programmes about skin disorders need to be fashioned to include general and practical preventive information. This would improve the quality of life among the elderly and, in case of a disorder, lead

to early diagnosis and treatment.

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