



**ALNAHRIN UNIVERSITY
COLLEGE OF MEDICINE
DEPARTMENT OF MEDICINE**

**FREQUENCY OF DERMATOLOGICAL
MANIFESTATIONS IN ELDERLY PATIENTS**

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DEDICATION

"If you really want to achieve something you will find a way "

To my leader father who support me and made me what I am now

To my fiancé the persons that guide me and light my life

To my family that gave me all love and supports

To every person who teach me from childhood until now and teach me in future

And special dedication to my amazing supervisor Dr..Iqbal G. Al-Terehi

For her support , guidance and encouragement

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Abstract

Background: Aging is a progressive degenerative process that results in decrement of functional and structural reserve capacity of the skin which is associated with age. A geriatric population defines as those persons over 60+ years. There are two types of skin aging; intrinsic and extrinsic, several factors that contribute to ageing. These factors may be biological, life style, social, psychological, spiritual, and cognitive and the diseases in the old age. These factors may not only lead to ageing but also to several diseases in the ageing process.

Aim of study: to assess the dermatological manifestation on the elderly patients

Patient and method: A cross-sectional study was in Al-Imamein Al-Kadhemein Medical City from the period of October 2018 to March 2019. twenty-five cases were enrolled in this study. all of this cases diagnose by specialized dermatological doctor

RESULTS : twenty five elderly patient was enrolled in this study 12 (48%) patients were male and 13 (52%) patients were female .Their age range between 60-75 years with average age was 67.5 years the commonest manifestation of physiological change was senile lentiginos 18(72%) patients the commonest cutaneous disease benign tumor 20 (80%) patients , dermatitis 18 (72%) patients , drug eruption 12(48%) patients ,delay wound healing 11(44%) patients , Pruritus 10(40%) patients , bacterial infection 7 (28%) patients, viral infection 5 (20%) patients ,Fungal infection 4 (16%) patients ,pressure sore 3(12%) patients, parasitic infection (scabies) 2(8%) patients.

Nail change was found in 24 (96%) patients it include : Loss of lustre 18 (75%) patients , vertical ridging 11 (45.8%), brittle nail 7 (29.1%) patients, onychomycosis 3 (12.5%) patients ,onycholysis 3 (12.5%) patients ,paronychia 2 (8.3%) patients .

Hair change was found in 15(60%) patients in which 8 (53.4%) patients was male had androgenetic alopecia and 7 (46.6%) patients was female patient 5(71.5%) of them had both eye brow and female patterned androgenetic alopecia and 2 (28.5%) female patient had female patterned androgenetic alopecia

Conclusion : Aging associated with many skin change which may be physiological or cutaneous disease , aging also associated with hair & nail changes.

Keywords: Dermatological manifestations, Elderly

Introduction

Aging is a progressive degenerative process that results in decrement of functional and structural reserve capacity of the skin which is associated with age [1]. A geriatric population defines as those persons over 60+ years [2]. The incidence of elderly population in Iraq in 2017 was 3.46% [3], In the Arab countries the number of elderly is increasing due to the improvement in health care services as well as the eradication of most of the infectious diseases that were causing early death [4].

Between 2015 and 2050, the proportion of the world's population over 60 years will nearly double from 12% to 22% [5] .

There are two types of skin aging; intrinsic aging includes changes occurring due to normal maturity which occurs in all individuals and extrinsic aging includes changes induced by UV light exposure, smoking, and other environmental pollutants [6]. At the biological level, ageing results from the impact of the accumulation of a wide variety of molecular and cellular damage over time. This leads to a gradual decrease in physical and mental capacity, a growing risk of disease, and ultimately, death [5].

There are several factors that contribute to ageing. These factors may be biological (like genetics, temperature, glycation, metabolism and oxidation), life style, social, psychological, spiritual, and cognitive and the diseases in the old age. These factors may not only lead to ageing but also to several diseases in the ageing process [7].

The most important cutaneous conditions affecting elderly persons due to degenerative and metabolic changes in skin layers during aging process:

- **Xerosis**

Xerosis, or dryness of the skin, is the most common form of fine scaling seen, particularly among children and the elderly. It is usually accompanied by mild or severe pruritus and is exacerbated by environmental factors such as exposure to sunlight. In the elderly, xerosis may cause atrophoderma [8].



[10]

- **Pruritus**

Pruritus Generalized pruritus without any cutaneous manifestations is common feature in elderly. It is usually results from xerosis and increased more at winter time. There are many underlying causes for pruritus; chronic renal failure, cholestatic liver diseases & diabetes mellitus [9].



[10]

- **Idiopathic guttate hypomelanosis (IGH)**

is a very common, acquired, and frequently ignored condition characterized by an appearance of multiple, well-circumscribed, asymptomatic, polygonal, white macules symmetrically distributed on the extensor forearms and shins [11].



[12]

- **Skin atrophy**

is a thinning of the upper layers of skin, causing them to be more fragile and prone to tears and ulcerations. Underlying structures like blood vessels, bone, and fat can also become more pronounced and visible. People can develop this condition for a number of reasons, but the two most common are aging and topical steroids, both of which lead to thinning of the skin over time [13].



[10]

- **Senile lentigens**

A benign pigmented flat macule on sun-exposed skin in older adults, especially on the back of the hands and on the forehead [14].



[10]

Specific dermatoses

- ❖ **Psoriasis**

is a chronic, non-communicable, disfiguring and disabling disease for which there is no cure and with great negative impact on patients' quality of life (QoL). It can occur at any age, and is most common in the age group 50–69 [15].



[10]

❖ **Lichen planus**

It is a common disease with small itchy purple papules on the arms or legs.

The lesions are typically polygonal, flat (hence, the term planus), and pruritic. Occurs characteristically on the wrists, shins, lower back and genitalia. Involvement of the scalp may lead to hair loss. The cause(s) of lichen planus are unknown. However, it can be triggered by the use of certain drugs (thiazide diuretics, phenothiazines, antimalarials) [16].



[10]

❖ **Eczematous dermatoses**

Eczematous dermatoses:

- ❖ **Asteototic eczema:** It is characterized by dry, cracked, and fissured lesions. It is common in winter. It is seen secondary to xerosis [17].
- ❖ **Gravitational eczema:** Occurs on lower extremities, chronic pruritic dermatoses are the characteristic feature. It is either acute or chronic. Secondary bacterial infection frequently occurs leading to cellulitis [17].
- ❖ **Nummular eczema, Seborrheic dermatitis and contact dermatitis** is most frequent form of endogenous eczema seen in elderly with chronic relapsing course [18].
- ❖ **Lichen simplex chronicus or neurodermatitis** is commonly frequent which classically involved shin, ankles & back of the neck [18].
- ❖ **Seborrheic dermatitis :** It is a chronic inflammation of skin that typically waxes and wanes. Seborrheic dermatitis produces a red scaling, occasionally weepy, oozy eruption. Seborrheic dermatitis commonly involves portions of the scalp, brows, mid-face, ears, mid-chest, and mid-back [16].



[10]

- ❖ **Contact dermatitis** ;It occurs at the site of exposure to a substance capable of producing an allergic or irritant skin response. Patients with contact dermatitis complain of itching and burning at the site of a red, elevated, crusty, weepy, scaly patches [16].



[18]

❖ Urticaria



[10]

- ❖ **Skin infection** Bacterial, Viral and fungal infections are common in elderly. Impetigo, cellulitis, erysipelas are common bacterial infections mainly due to alteration in barrier function [19].
- ❖ Herpes zoster is the most common viral infection affecting elderly, Post-herpetic neuralgia is shown to be severe long lasting, resistant to treatment. HSV-1 has shown to be associated with Alzheimer s disease [20],[21] .
- ❖ **Scabies** : It is an itchy, highly contagious skin disease caused by an infestation by the mite *Sarcoptes scabiei*. Direct skin-to-skin contact is the mode of transmission. A severe and relentless itch is the predominant symptom of scabies. Signs and symptoms of scabies include a excoriated papules that affects specific areas of the body. Other symptoms can include tiny red burrows on the skin and relentless itching. Excoriation from intense itching which may predispose the skin to secondary infections [16].



[10]



[10]

- ❖ **Drug reactions:** Exanthematous lesions and fixed drug eruptions are most frequently occurring in elderly, Steven Johnson syndrome and drug induced vasculitis may occur also [22].
- ❖ **Vascular dermatoses:** Senile purpura occurs at sites of minimal trauma due to decreased supporting collagen to the small blood vessels with aging [22].

- ❖ **Neoplams:** Elderly people are with increased risk for neoplastic growth due to decreased body ability to repair damage [23].
- ❖ **Benign neoplasia:** are skin tags, Seborrheic keratosis is commonly occurs after age of 50. It is of clinical significance in case of Lesser-Trelat syndrome in which sudden eruptive appearance of seborrheic keratosis with the presence of underlying malignancy [23].
- ❖ **Malignant neoplasia:** It is due to decrease immunity and harmful effect of UV light, these include: Basal cell carcinoma, squamous cell carcinoma, keratoacanthoma and leukoplakia [23]

❖ **Benign tumor**

- ❖ **Acrochordon** is a small, soft, common, benign, usually pedunculated neoplasm that is found particularly in persons who are obese. It is usually skin colored or hyperpigmented, and it may appear as surface nodules or papillomas on healthy skin. Most acrochordons vary in size from 2-5 mm in diameter, although larger acrochordons up to 5 cm in diameter are sometimes evident. The most frequent localizations are the neck and the axillae, but any skin fold, including the groin, may be affected [24] .



[12]

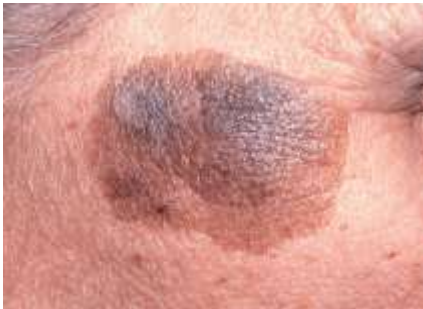
❖ **Xanthelasma**

are yellowish plaques that occur most commonly near the inner canthus of the eyelid, more often on the upper lid than the lower lid [24].



[10]

❖ **Seborrheic keratosis** It is one of the most common noncancerous skin condition. The lesion has a waxy plaques [25].



[10]

❖ **Angioma**



[10]

- ❖ **Malignant tumours**
- ❖ **Basal cell carcinoma**



[10]

- ❖ **Squamous cell carcinoma,**



[10]

- ❖ **Photodermatoses:** It includes
- ❖ **Actinic elastoses:** It occurs due to degenerative changes affecting the face and back of the hand [26]
- ❖ **Favre Racouchot syndrome:** Comedones , follicular cysts affecting the skin around the eyes [26]
- ❖ **Immunological disorders:** Bullous pemphigoid: it is an autoimmune disorder with the proposition of the presence of circulating auto-antibodies and properly diagnosed by skin biopsy [22]

❖ **Nail change [27]**

- Vertical ridging



[10]

- Onychomycosis



[10]

- paronychia



[10]

- Nail psoriasis



[10]

- Subungual hyperkeratosis



- Beaus line



- Pterygium



- [10]

Aim of study

To assess the dermatological manifestation on the elderly patients

Patient and method

A cross-sectional study was in al-imamein Al-kadhemein Medical City from the period of October 2018 to March 2019. twenty-five cases were enrolled in this study. all of this cases diagnose by specialized dermatological doctor.

For the purpose of research,a questionnaire formula was prepared to cover the following points

NAME :

AGE :

SEX : M F

MARRITAL STATE :

OCCUPATION :

RESIDENCY :

SMOKING & ALCOHOL :

MEDICAL DISEASE

Physiological change

Hyper tension

Xerosis

DM

Wrinkling

OA

Idiopathic hypomelanosis

Renal disease

Atrophy of skin

Cataract

Senile lentigines

Malignancy

Cold intolerance

IHD

Psychological disease

Edema of hand

Malar & flash

Pallor ,Yellow tint skin

,Decrease or loss of sweety

Cutaneous disease

1-pruritis

Asteatotic eczema

Dermatitis (seborrheic , discoid , contact)

2- stasis dermatitis and ulcer

Pressure sore

Delay wound healing

3- drug eruption

4- bacterial infection (folliculitis , leprosy ,pyoderma)

5- parasitic infection (scabies)

6-fungal infection (tinea , Candida Pyteriasis versicolour)

7-viral infection (herpes ,HPV ,molluscum)

8-benign tumor (seborrheic keratosis ,cherry angioma

Dermatosis papulose nigra , nevi ,dermoid cyst)

9-malignant tumor (bcc , scc)

10-nail change (vertical ridging ,loss of lustre ,onychomycosis
,paronychia ,onycholysis

, brittle nail ,keratoderma

11-alopecia (eye brow ,scalp)

12-neurodermatitis

13- psoriasis

RESULTS:

Twenty five elderly patients were enrolled in this study 12 (48%) patients were males and 13 (52%) patients were female .Their age range between 60-75 years with average age was 67.5 years . as in figure (1).

the commonest manifestation of physiological change was senile lentiginos 18(72%) patients, hypohydrosis 16(64%) patient, wrinkling 15 (60%) patients , xerosis 14 (56%) patients ,malar flash 13 (52%) patients , atrophy of skin 12 (48%) patients , edema of hand 9 (36%) patients , pallor 7 (28%) patients , yellow tint skin 7 (28%) patients , idiopathic gutate hypomelanosis 4 (16%) patients and least manifestation was cold intolerance 3(12%) patients . as described in table (1).

the commonest cutaneous disease benign tumor 20 (80%) patients in which Nevi 13 (65%) patients, Seborrheic keratosis 6 (30%) patients cherry angioma 5(25%) patients, dermoid cyst 1(5%) patients. as in table (2).

The second cutaneous manifestation was dermatitis 18 (72%) patients was Seborrheic dermatitis 5(27%) patients, asteatotic eczema 5(27%) patients, gravitational eczema 4(22%) patients, contact dermatitis 3(16%) patients, discoid dermatitis 1(5.5%) patients

Followed by drug eruption 12 (48%) patients, delay wound healing 11(44%) patients, Pruritus 10 (40%) patients. Bacterial infection 7 (28%) patients was folliculitis, Psoriasis 6 (24%) patients, viral infection 5 (20%) patients in which HPV 4 (80%) patients & molluscum 1 (20%) patients. Fungal infection 4 (16%) patients was Candida infection 2 (50%) patients, Tinea infection 2 (50%) patients. Pressure sore 3(12%) patients, and the least manifestation was parasitic infection (scabies) 2 (8%) patients, as in Table (3).

Nail change was found in 24 (96%) patients it includes: Loss of lustre 18 (75%) patients, vertical ridging 11 (45.8%), brittle nail 7 (29.1%) patients, onychomycosis 3 (12.5%) patients, onycholysis 3 (12.5%) patients, paronychia 2 (8.3%) patients. as in table (4)

Hair change was found in 15(60%) patients in which 8 (53.4%) patients was male had androgenetic alopecia and 7 (46.6%) patients was female patient 5(71.5%) of them had both eye brow and female patterned androgenetic alopecia and 2 (28.5%) female patient had female patterned androgenetic alopecia. as in figure (2) and table (5)

On the basis of medical disease 18 (72%) patients of them had hypertension, 13 (52%) patients had diabetes mellitus, 9 (36%) patients had osteoarthritis, 6(24%) patients had ischemic heart disease, 3 (12%) patients had cataract, 2(8%) patients had renal disease and 1(4%) patient had malignancy .as described in table (6)

On the basis of social history; There was 9(36%) patients of them are smokers.

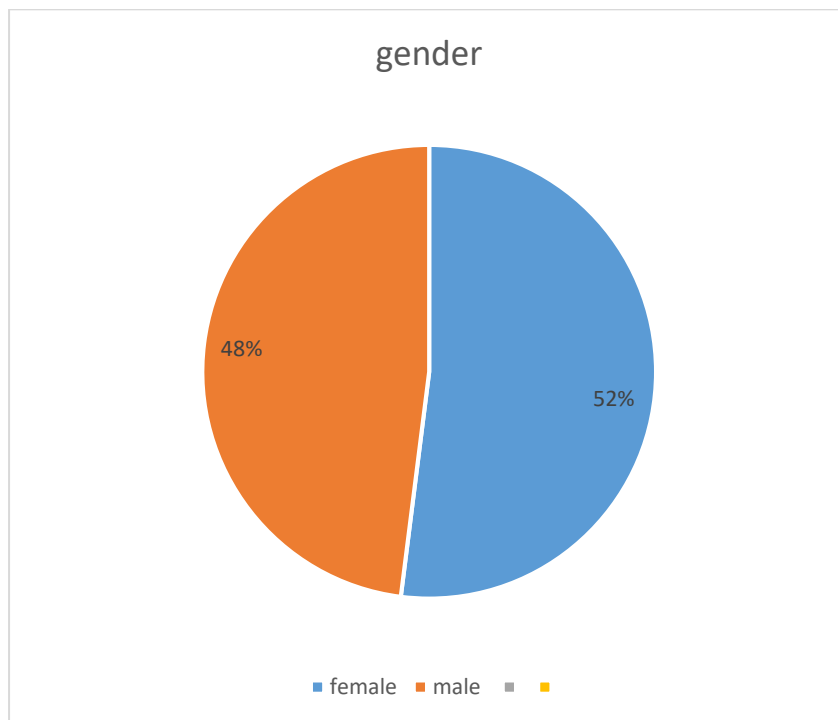


Figure (1) gender distribution among elderly patients

Table (1): Physiological manifestations among elderly

Physiological manifestation	No.(%)	No.(%)	No.(%)
	Male	Female	Total
Senile lentigens	7(38.9%)	11(61.1%)	18(72%)
Hypohydrosis	7(43.75%)	9(56.25%)	16(64%)
Wrinkling	4(26.7%)	11(73.3%)	15(60%)
Xerosis	5(35.7%)	9(64.3%)	14(56%)
Malar flash	5(38.5%)	8(61.5%)	13(52%)
Skin atrophy	4(33.3%)	8(66.7%)	12(48%)
Edema of hand	4(44.5%)	5(55.5%)	9(36%)
Pallor	3(42.8%)	4(57.2%)	7(28%)
Yellow tint skin	3(42.8%)	4(57.2%)	7(28%)
Idiopathic gutatte hypomelanosis	2(50%)	2(50%)	4(16%)
Cold intolerance	1(33.3%)	2(66.7%)	3(12%)

Table (2) Benign tumor distribution among elderly patients

Benign tumor	No.(%)	No.(%)	No.(%)
	Male	Female	Total
Neavi	8(61.5%)	5(38.5%)	13(65%)
Seborrheic keratosis	3(50%)	3(50%)	6(30%)
Cherry angioma	4(80%)	1(20%)	5(25%)
Dermiod cyst	1(100%)	0(0%)	1(5%)

Table (3) Cutaneous disease distribution among elderly patients

Cutaneous disease	No.(%)	No.(%)	No.(%)
	Male	Female	Total
Benign tumor	10(50%)	10(50%)	20(80%)
Dermatitis	7(38.9%)	11(61.1%)	18(72%)
Drug eruption	3(25%)	9(75%)	12(48%)
Delay wound healing	5(45.5%)	6(54.5%)	11(44%)
Pruritus	4(40%)	6(60%)	10(40%)
Bacterial infection	3(42.8%)	4(57.2%)	7(28%)
Psoriasis	3(50%)	3(50%)	6(24%)
Viral infection	3(60%)	2(40%)	5(20%)
Fungal infection	2(50%)	2(50%)	4(16%)
Pressure sore	2(66.6%)	1(33.4%)	3(12%)
Parasitic infection	1(50%)	1(50%)	2(8%)

Table (4) Nail change distribution among elderly patients

Nail change	No.(%)	No.(%)	No.(%)
	Male	Female	Total
Loss of lustre	11(61.1%)	7(38.9%)	18(75%)
Longitudinal ridging	7(63.6%)	4(36.4%)	11(45.8%)
Brittle nail	5(71.4%)	2(28.6%)	7(29.1%)
onychomycosis	2(66.6%)	1(33.4%)	3(12.5%)
Onycholysis	1(33.4%)	2(66.6%)	3(12.5%)
Paronychia	1(50%)	1(50%)	2(8.3%)

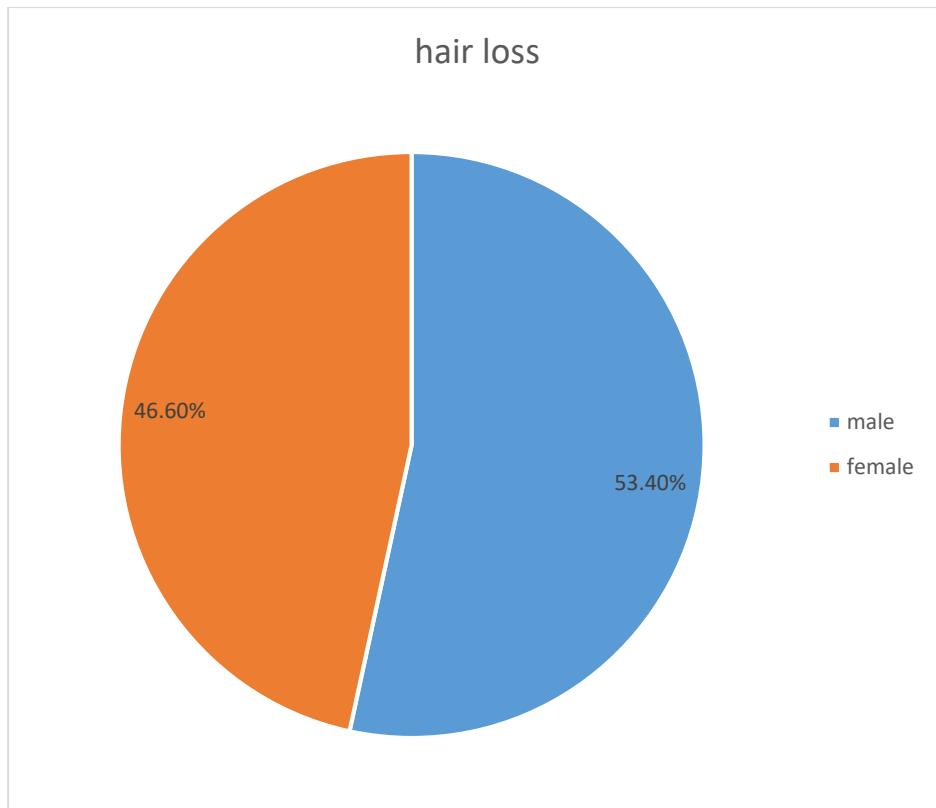


Figure (2) show hair loss distribution among elderly patients

Table (5): Hair loss distribution in elderly

Hair loss	No.(%)
Male pattern	8(53.3%)
Female thinning	7(46.7%)

Table (6): Medical disease distribution in elderly

Medical disease	No.(%)	No.(%)	No.(%)
	Male	Female	Total
Hypertension	8(44.4%)	10(55.6%)	18(72%)
Diabetes mellitus	6(46.1%)	7(53.9%)	13(52%)
Osteoarthritis	4(44.4%)	5(55.6%)	9(36%)
Ischemic heart disease	3(50%)	3(50%)	6(24%)
Cataract	1(33.4%)	2(66.6%)	3(12%)
Renal disease	1(50%)	1(50%)	2(8%)
Malignancy	0(0%)	1(100%)	1(4%)

Discussion

Aging is a continuous process of intrinsic, progressive, and generalized physical deterioration that occurs over time beginning at about the age of 60 years (1).

A total of 25 patients aged above 60 years old considered in this study. The commonest physiological manifestation in this study is senile lentigines 18 (72%) patients which is disagree with this study [shashikumar et al mandaya 2015] [28] less than our study, followed by hypohydrosis 16 (64%) patients also disagree with this study [shashikumar et al mandaya 2015] [28] this is may be due weather and high temperature degree, followed by wrinkling 15 (60%) patients also less than this studies [shashikumar et al mandaya 2015] [Beauregard S et al...1987] [28-32], after that there is xerosis 14 (56%) patients which is less than other study done by [shashikumar et al mandaya 2015][Durai PC, Thappa DM, Kumari R, Malathi M] [Raveendra L] [28,29,33] this is may be due small number of sample, skin atrophy 12 (48%) patients in our study higher than this study 110 (36.7%) [shashikumar et al mandaya 2015] [28], followed by edema (36%) patients, pallor (28%) patients, yellow tint skin (28%) patients which are no evidence about it in this study [shashikumar et al mandaya 2015] [28], about idiopathic guttate hypomelanosis 4 (16%) patients less than [shashikumar et al mandaya 2015] [28] 136 (45.3%).

Regarding benign tumor of skin nevi 13 (65%) patients is the most common which is higher than this study [Beauregard S et al...1987] [32] (46. %) and this [Patange VS, Fernandez et al...1995] [34] (32.5%), followed by seborrheic keratosis 6 (30%) patients which is less than this study [Beauregard S et al...1987] [32], cherry angioma 5 (25%) patients in our study less than this study [Raveendra L et al...2014] [27] 74 (37%).

The incidence of dermatitis 18 (72%) is higher than studies [Raveendra L et al...2014] [Souissi A et al...2006] [Liao YH et al...2001] [27,35,36], bacterial infection 7 (28%) is near this studies [Raveendra L et al...2014] [Souissi A et al...2006] [27,35], psoriasis 6 (24%) is higher than studies [Tindall JP et al...1963] [Beauregard S et al...1987] [Patange VS, Fernandez et al...1995] [30,32,34] which is range between 1% to 11.2%, pruritus 10 (40%) is near study [Raveendra L et al...2014] [27] (44%) but less than study [Patange VS, Fernandez et al...1995] [34] (78.5%), viral infection found in 5(20%) patients and fungal infection found in 4(16%) patients higher than study [Raveendra L et al...2014] [27].

Loss of lustre is the commonest nail change 18 (75%) patients higher than study [Raveendra L et al...2014] [27] 88(44%) followed by longitudinal ridging 11(45.8%) patients same as study [Raveendra L et al...2014] [27] 94 (44%) , onychomycosis 3 (12.5%) and paronychia 2 (8%) higher than [Raveendra L et al...2014] [27] 14(7%) 8(4%) respectively .

Conclusion

Aging associated with many skin change which may be physiological or cutaneous disease , aging also associated with hair & nail changes.

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