

Epidemiological Study of Seborrheic Keratosis among Egyptians in Great Cairo **Mohamed Abdel Moneim Abdel Aal, Ahmed Rashad Mohamed El-Shahed, Maydaa Mohamed Fawzy**

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ABSTRACT

Background: Seborrheic keratosis is one of the most common benign epidermal tumors. Seborrheickeratoses are hyperkeratotic lesions of the epidermis, which often appear to be “stuck on” the surface of the skin. Cherry angiomas are very common acquired vascular skin lesions.

Objective: To find any relation between seborrheic keratosis and cherry angioma.

Patients and Methods: A total of one hundred male and female patients, presented with Seborrheic keratosis with or without associated cherry angioma (62% present CA & 38% absent CA), were included in the study. Full history taking and full examination was done between December 2015 and May 2017. Twelve biopsies were taken from 6 patients.

Results: The age of the patients ranged from 18 to 88 years old. The male patients were (63%) and the female patients were (37%). 17% of patients complained of itching, 20% had positive family history of Seborrheic Keratosis, 75% had skin photo type III. Flat Seborrheic Keratosis was 49% of the cases. The most common site of SK was face (76%). The most common site of cherry angioma was abdomen (88.7%). The examination of the biopsies revealed no histopathological correlation between seborrheic keratosis and cherry angioma.

Conclusion: The patient with seborrheic keratosis sometimes may have cherry angioma in adjacent to it or in a different site which didn't necessarily means that they have the same pathological origin.

Keywords: Seborrheic keratosis, cherry angioma, biopsies, tumor, histopathology.

INTRODUCTION

Seborrheic keratoses (SK) are common, benign, pigmented epidermal tumors. These usually develop after the age of 50 years although occasionally, seen in young adulthood without any sexual predilection⁽¹⁾.

The common site of involvement includes the trunk, particularly the interscapular area, sides of the neck, the face and the arms. The tumors are not, however, seen on the mucous membranes. Lesions appear as coin-like, sharply demarcated, exophytic lesions and are “stuck on the skin” with a verrucous, rough, dull or punched-out surface⁽²⁾.

SK is found in a significant portion of elderly individuals, ranging from 11% to 60% of older adults in different populations, because this tumor is benign and its treatment is not mandatory. However, the lesions are often removed especially for cosmetic reasons⁽³⁾.

Cherry angiomas (CAs) are the most common form of acquired vascular proliferation of the skin⁽⁴⁾.

CAs usually appears in the third or fourth decade of life and tends to increase in number and size with increasing age⁽⁵⁾.

The aim of this study is to consider any relation between seborrheic keratosis and cherry angioma.

PATIENTS AND METHODS

Type of the study: epidemiological study. This epidemiological study was carried on 100 patients. The study was approved by the Ethics Board of Al-Azhar University. A total of one hundred

patients, presented with Seborrheic keratosis with or without associated cherry angioma were included in this study from Al-Azhar University Hospitals, Al-Waraa Central Hospital and Al-Houd Al-Marsoud Hospital. Patients were subjected to:

Full history taking: 1-Personal history that includes name, age, sex, marriage, occupation, special habits of medical importance, address. 2-Present history: presence of pain, discharge, bleeding, ulceration, itching at the site of the lesion. 3- Family history of Seborrheic Keratosis.

Examination: 1-General examination: Height, body weight, body mass index, span, and general build. 2-Dermatological examination: To determine patient's skin type; site, color and number of Seborrheic Keratosis, associated Cherry Angioma; their site, color and number.

Ethical Issues: Informed consents were taken from all of the patients included in our study.

Skin Biopsy: Six patients who have seborrheic keratosis with associated cherry angioma were collected from Al Houd Al Marsoud hospital, with biopsy samples from 12 skin lesions. Every patient was subjected to two biopsies procedures. The biopsy of half of the patients was taken from two cherry angiomas different in color and shape. The other three patient's biopsies were taken from seborrheic keratosis and cherry angioma. All of the biopsy's patients were males, their age ranges from 56 to 70 years old. The biopsies were taken from: chest,

abdomen and back. The size of the lesions ranges from 2.5 mm to 4 mm.

Three and half-fine millimeter punch biopsy was taken from 6 patients under deeply infiltrated local anesthesia (xylocaine 2% without adrenaline).

Preparation of specimens and staining procedures:

Biopsy specimens were fixed in aqueous solution of 10% buffered formalin. Every specimen passed first through increasing concentrations of ethanol for dehydration then through xylene for clearance, and finally through several changes of hot melted paraffin. The specimens were embedded in the still liquid paraffin, which was allowed to harden. The specimens were then cut on a rotating microtome into 5micrometer thick sections. Sections from each specimen were stained with Hematoxylin and Eosin (H and E) for histological study.

Post procedure care: Patient instructed to avoid soaps and topical creams on the first day. Topical antibiotic cream (FUCIDIN cream) was applied once/day after the procedure for three days.

Statistical Analysis:

Data were collected, revised, coded and entered to the Statistical Package of Social Science (SPSS) version 23. The qualitative data were presented as number and percentages while quantitative data were presented as mean and standard deviation and ranges when the data distribution found parametric while non parametric data were presented as median with inter-quartile range (IQR). The comparisons between two groups with qualitative data were done by using Chi-square test. The comparison between two groups with quantitative data and parametric distribution were done by using Independent t-test while with non parametric distribution were compared by using Mann-Whitney test. The confidence interval was set to 95% and the margin of error accepted was set to 5%. So, the p-value was considered significant as the following: p value of < 0.01 is considered highly significant (HS). p value of < 0.05 is considered significant (s). p value of > 0.05 is considered non significant (NS).

RESULTS

Sixty two percent of patients of SK were with CA & 38% were without CA. The male patients were (63%) and the female patients were (37%), their ages ranged between 18 & 88 years (mean \pm SD: 54.62 \pm 13.64 years). 17% of patients

were complaining of itching, 20% of patients had positive family history of Seborrheic Keratosis. Clinically, 75% of patients had skin photo type III. The most common clinical variant was Flat SK (49%) followed by Dermatitis Papulosa Nigra (42%) and Leser Trelat sign (12%). There was an association between the frequency of SKs and body site, the most common site affected was face (77.4%), followed by back (32.3%) and abdomen (25.8%). The most common site of Cherry Angioma was abdomen (88.7) followed by back (58.1) and chest (24.2).

As regards type of seborrheic keratosis; there was no statistically significant difference between absent and associated Cherry Angioma in SK patients ($p > 0.05$), (Table1).

Table (1): Comparison between absent and associated Cherry Angioma (CA) in Seborrheic Keratosis (SK) patients as regards type of seborrheic keratosis.

		SK without CA		SK with CA		Chi-square test	
		No.	%	No.	%	X ²	P-value
D.P.N.	No	18	47.4%	40	64.5%	2.844	0.092
	Yes	20	52.6%	22	35.5%		
Flat SK.	No	23	60.5%	28	45.2%	2.226	0.136
	Yes	15	39.5%	34	54.8%		
L.T. sign	No	34	89.5%	54	87.1%	0.126	0.723
	Yes	4	10.5%	8	12.9%		
Skin tag like SK.	No	37	97.4%	61	98.4%	0.125	0.724
	Yes	1	2.6%	1	1.6%		
Melanoacanthoma	No	36	94.7%	57	91.9%	0.284	0.594
	Yes	2	5.3%	5	8.1%		
Stucco keratosis	No	38	100.0%	61	98.4%	0.619	0.431
	Yes	0	0.0%	1	1.6%		

Table (2): Comparison between absent and associated Cherry Angioma (CA) in Seborrheic Keratosis (SK) patients as regards site, color and number of SK.

Site of SK	SK without CA		SK with CA		Chi-square test	
	No.=38		No.=62		X ² /Z*	P-value
Neck	2 (5.3%)		6 (9.7%)		0.624	0.430
Abdomen	6 (15.8%)		16 (25.8%)		1.378	0.241
Back	9 (23.7%)		20 (32.3%)		0.841	0.359
Arm	1 (2.6%)		0 (0.0%)		1.648	0.199
Breast	1 (2.6%)		1 (1.6%)		0.125	0.724
Chest	1 (2.6%)		3 (4.8%)		0.299	0.585
Hand	0 (0.0%)		1 (1.6%)		0.619	0.431
Axilla	0 (0.0%)		2 (3.2%)		1.251	0.263
Face	28 (73.7%)		48 (77.4%)		0.180	0.671
Scalp	5 (13.2%)		8 (12.9%)		0.001	0.971
Color of SK	Black	10 (26.3%)		4 (6.5%)	7.721	0.005*
	Brown	28 (73.7%)		58 (93.5%)		
Number of SK	Median(IQR)	28 (2 - 55)		7 (2 - 50)	-0.575*	0.565
	Range	1 - 300		1 - 270		

*: Mann-Whitney test

Comparison between absent and associated Cherry Angioma in SK patients regarding site and

number of SK was found to be insignificant ($p>0.05$) while comparison between absent and associated Cherry Angioma in SK patients regarding color of SK was found to be highly significant ($p=0.005$), (Table 2).

The examination of the biopsies revealed no histopathological correlation between seborrheic keratosis and cherry angioma.

DISCUSSION

Seborrheic keratosis is one of the most common benign epidermal tumors. Clinically, these lesions are characterized by well-circumscribed plaques or papules with pseudohorn cysts. They range from light brown to dark brown or black⁽⁶⁾.

Cherry angiomas (also known as Campbell de Morgan spots after the 19th century British surgeon who described them) are very common acquired vascular skin lesions. Histologically, cherry angiomas are small polypoid lesions with an epidermal collarette, and multiple lobules of dilated and congested capillaries in the papillary dermis. Their ultrastructure is characterized by spherical and tubular dilatations of the dermal papillae capillary loops, with cross-connections between loop⁽⁷⁾.

In the current study as regards the relation between seborrheic keratosis and cherry angioma: 62% of the patients with seborrheic keratosis had associated cherry angioma, while 38% of patients had absent cherry angioma.

Our findings also are in agreement with the study of *Singh et al.*⁽⁸⁾ who conducted a study to describe the frequency and clinical pattern of cutaneous manifestations in elderly population. This descriptive study was carried on elderly, aged above 60 years. A total of 200 patients were included in the study. Seborrheic keratosis without any association was seen in 84 (42%) cases. Cherry angiomas were seen in 102 (51%) cases.

Also our findings are in agreement with the study of *Raveendra*⁽⁹⁾ in which two hundred patients aged more than 65 years of age were subjected to full history of cutaneous complaints, present and past medical ailments. A complete general physical, systemic examination and dermatological examination was done. Skin changes observed due to ageing were classified as physiological and pathological. The incidence of Seborrheic keratosis without any association was (56%) and the incidence of cherry angiomas was (37%) in this study.

Grover et al.⁽¹⁰⁾ studied skin changes in geriatric population: 200 patients aged 65 years and above, a detailed history was recorded and complete examination carried out. Relevant investigations were performed. Rates of seborrheic keratosis without any association were 43% and with cherry angioma were 63%.

In this study, there was no significant value among the study patients as regards the age, but it was ranging from 18 to 88 among the study patients who had seborrheic keratosis and associated cherry angioma.

Our study also showed increase of seborrheic keratosis and cherry angioma among old aged patients especially among retired patients but it does not reach the significant value ($p=0.064$). So we recommend a larger scale study to confirm this finding.

Almost a same result reported by the study of *Nurhudatiana et al.*⁽¹¹⁾ they reported that cherry hemangiomas and seborrheic keratoses typically develop in the third and fourth decades of a person's life and their frequency increases with age.

Another comparable result was reported by *Callaghan et al.*⁽¹²⁾ they explore various features of intrinsic and extrinsic aging experienced by individuals of color. Clinical strategies appropriate for individuals of all skin colors that aid in the prevention and treatment of skin aging are also described. Seborrheic keratosis are clearly associated with age clinically, Cherry angioma is the most commonly acquired vascular proliferation with aging. Cherry angiomas may occasionally develop during adolescence, but usually first appear during the third decade or later of life.

Souter⁽⁵⁾ reported that Seborrheic keratosis usually start to develop after the age of 50 years and Cherry angiomas usually appear in the third or fourth decade of life and tend to increase in number and size with increasing age.

Also *Wey et al.*⁽¹⁴⁾ reported that Seborrheic keratosis usually seen after the age of 30 years, Cherry angiomas are commonly found in the elderly.

In the current study, 79% of patients with seborrheic keratosis and cherry angioma were of skin phototype III and 21% were of skin phototype IV.

In *Callaghan et al.*⁽¹²⁾ Seborrheic keratosis is common across all skin colors and types. Limited data exists on the incidence of cherry angiomas in different racial groups or skin types.

Some have suggested that darker brown skin types may have lower incidences of cherry angiomas than skin types I and II. In clinical practice, however, cherry angiomas are regularly seen on a variety of skin types, including type IV.

Durai et al.⁽¹⁶⁾ performed a study with Indian subjects who were skin type IV, seborrheic keratosis observed in 50.6% and cherry angiomas were observed in 15.2% of the population studied.

CONCLUSION

Seborrheic keratoses are common lesions in middle and old aged, skin photo type III with predilection for male, predominantly affecting the head, neck, and trunk. A genetic predisposition in SK has been noticed.

The most common clinical variant was Flat SK followed by DPN and Leser Trelat sign.

Diagnosis of Seborrheic Keratosis can usually be made based on clinical appearance. Histopathology is a useful tool to confirm the diagnosis of SK.

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