



ASSESSMENT OF LIPID PROFILE AMONG PATIENT WITH SKIN TAGS IN KHARTOUM STATE-SUDAN

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ABSTRACT

Background: Skin tags are benign skin tumors commonly occurring on the neck and axilla. They associated with insulin resistance states, age, obesity, dyslipidemia, and atherogenic lipid profile. Methodology: This was an analytical case control study conducted in Khartoum state from February to May 2016. The aim of the study were to assessment of lipid profile, TG:HDL ratio and BMI among Patients with skin tags. A total of 60 patients were included, and 60 apparently healthy controls were included, selected randomly. the cases were chosen those who are having at least 3 skin tags, which diagnosed in dermatology clinic. Serum total cholesterol (TC) and total triglycerides (TG), Serum high density lipo-protein (HDL), Serum low density lipo-protein (LDL) Cholesterol were measured TG: HDL ratio calculated by dividing TG/HDL, if the ratio more than 3 it indicate coronary artery disease or insulin resistance. Height and weight were measured and BMI was calculated as weight in kg divided by the square of the height in meters. Overweight was defined as BMI 25-30 kg/m², and obesity was defined as BMI >30 kg/m². Results: A total of 60 patients were included, 35(58.3%) were males, and 25(41.7%) were females with mean age (48.53 ± 15.59SD), the cases were chosen those who are having at least 3 skin tags which diagnosed in dermatology clinic, and 60 apparently healthy controls were included, 27(45%) were males, and 33(55%) were females with mean age (47.53±13.96SD). There was no significant different in age between two groups *p*-value (0.721), and gender *p*-value (0.069), and there was significant difference in TG, TC, HDL, LDL BMI, TG: HDL ratio *p*-value <0.0001, <0.0001, <0.0001, =0.0025, <0.0001, <0.0001, respectively. **Conclusion:** In this study there is significant association of skin tags and dyslipidemic lipid profile, and obesity. Skin tags may be one of the important markers for Dyslipidemia and obesity.

KEYWORDS: skin tag, Dyslipidemia, BMI, atherogenic lipid, lipid profile, obesity.

INTRODUCTION

Skin tags (Acrochordon or fibroepithelial polyp,) are small, soft, pedunculated, fleshes to dark brown colored, benign skin tumors commonly occurring on the neck and axilla. They are common skin lesions; they associated with insulin resistance states, age, obesity, atherogenic lipid profile, acromegaly and pregnancy.^[1,2,3,4] Skin tag was defined as a furrowed pedunculated skin-coloured papule approximately 2 mm in width and 3-6 mm in height appear singly or multiple.^[5] It is affect both sexes equally.^[6] Obesity and atherogenic lipid profile is associated with insulin resistance, type 2 diabetes mellitus, and an increased risk of cardiovascular disease.^[7] The incidence of obesity is increasing at an alarming rate worldwide. It is important contributing factors for diabetes, Dyslipidemia and cardiovascular disease.^[5] It may contribute to the development of both insulin resistance and insulin secretory dysfunction in susceptible individuals.^[8] Via inhibition of insulin receptokinase activity and inhibition of phosphorylation

of insulin receptor substrate^[6] TG: HDL ratio calculated by dividing TG/HDL^[9], if the ratio more than 3 it indicate coronary artery disease or insulin resistance. Height and weight were measured and BMI was calculated as weight in kg divided by the square of the height in meters. Patients were considered according to their BMI – BMI ≤ 18 as thin, BMI between 19 and 25 as normal, Overweight was defined as BMI 25-30 kg/m², and obesity was defined as BMI >30 kg/m².^[10]

The aim of this study is to highlight the association between dyslipidemia, atherogenic lipid, obesity and skin tags.

MATERIALS AND METHODS

This was an analytical case control study conducted in Khartoum state from February to May 2016. A total of 60 patients were included, the cases were chosen those who are having at least 3 skin tags which diagnosed in dermatology clinic, involving number and location, and

60 apparently healthy controls were included, selected randomly. Informed consent was obtained from all the participants prior to study. Patients were excluded from the study if they reported diabetes mellitus, lipid disorders, using of lipid lowering drugs (statin), acromegaly, samples were collected after 12 hour fasting, Serum total cholesterol (TC) and total triglycerides (TG), Serum high density lipo-protein (HDL), Serum low density lipo-protein (LDL) Cholesterol by an enzymatic method kit (cobAsintegra400 chemistry analyzer). TG: HDL ratio calculated by dividing TG/HDL^[9], if the ratio more than 3 it indicate coronary artery disease or insulin resistance. Height and weight were measured and BMI was calculated as weight in kg divided by the square of the height in meters. Patients were considered according to their BMI – BMI ≤ 18 as thin, BMI between 19 and 25 as normal, Overweight was defined as BMI 25-30 kg/m², and obesity was defined as BMI >30 kg/m².^[10]

RESULTS

A total of 60 patients were included, 35(58.3%) were males, and 25(41.7%) were females with mean age (48.53 ± 15.59SD), the cases were chosen those who are having at least 3 skin tags which diagnosed in dermatology clinic and 60 apparently healthy controls were included, 27(45%) were males, and 33(55%) were females with mean age (47.53±13.96SD).

There was no significant different in age and gender between two groups, *P-value* =0.712, *P-value*=0.069 respectively, and there was significant difference in TG, TC, HDL, LDL BMI, and TG: HDL ratio and there *P-value* =0.000.

There was correlation between skin tags number and TG, TC, LDL, TG: HDL ratio, and no correlation between HDL, BMI. The location of skin tags not correlated with parameter, show in table 3.

Table 1: Descriptive Statistics

		N	Mean	Median	Std. Deviation
Case	Age	60	48.53	50.00	15.59
	Gender		1.40	1.00	0.49
	Number		10.31	10.00	4.10
	location		4.40	4.00	2.89
	TG		230.50	212.00	65.92
	CHO		211.17	204.00	39.69
	HDL		44.45	45.00	11.95
	LDL		119.20	120.00	22.58
	BMI		28.46	28.07	2.73
Control	TG- HDL	60	5.82	5.00	3.06
	Age		47.53	47.50	13.96
	Gender		1.66	2.00	0.50
	TG		117.43	109.00	40.43
	CHO		148.75	144.50	36.37
	HDL		58.77	60.00	12.66
	LDL		96.22	92.50	22.74
	BMI		25.85	25.69	1.90
	TG- HDL		2.07	1.90	0.78

Table 2: shows the association between group1 and group2 in the study

		cases	controls	p-value
Ages	Mean	48	47	0.712 *
	SD	15	13	
Gender	female	24	34	0.069 **
	male	36	26	
TG up to 150mg/dl	Yes	6	48	<0.0001**
	No	54	12	
TC up to 200mg/dl	Yes	19	53	<0.0001**
	No	41	7	
HDL > 35mg/dl	Yes	23	56	<0.0001**
	No	37	4	
LDL <130mg/dl	Yes	18	55	0.0025**
	No	42	5	
BMI	Mean	28.5	25.8	<0.0001 ^s
	SD	2.7	1.9	
TG:HDL Ratio up to 3	Yes	6	47	<0.0001**
	No	54	13	

*student's t. test / ** Chi square test /

\$ Fisher's exact test, Source: SPSS Package

Table 3: shows the Correlations between Number of skin tags and TG, CHO, HDL, LDL, BMI and TG-HDL In the case study.

Number			
Variables	Pearson Correlation	P-value	N
TG	0.482*	0.000	60
TC	0.423*	0.001	60
HDL	-0.064	0.629	60
LDL	0.280*	0.030	60
BMI	0.245	0.060	60
TG: HDL	0.297*	0.021	60

Source: SPSS Package

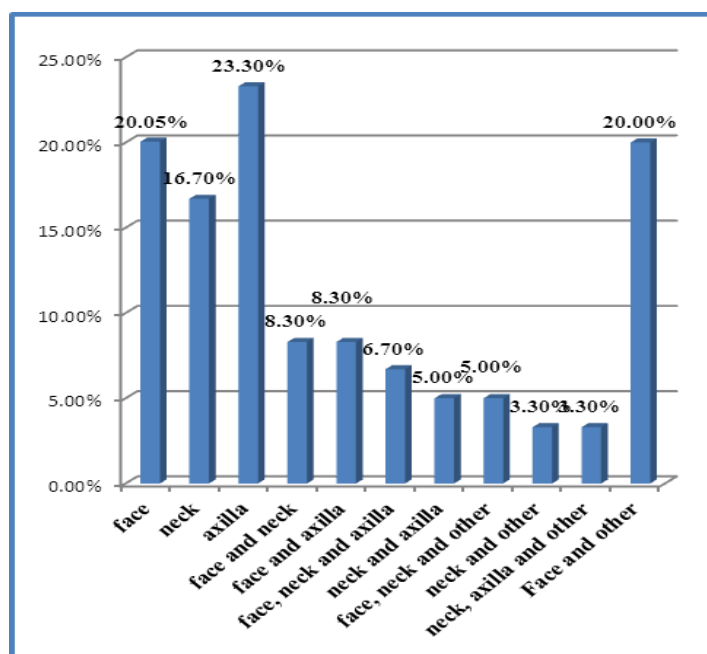


Figure 1: shows the Location of skin tags percent in the case study

DISCUSSION

Skin tags are the most common fibrous lesions of the skin. It is remaining asymptomatic and they become painful when it is inflamed or irritated.^[11] Multiple skin tags are frequently associated with obesity.^[12] Since, in the present study we analyzed the association between skin tags and Serum total cholesterol (TC), total triglycerides (TG), Serum high density lipo-protein (HDL), Serum low density lipo-protein (LDL), BMI, and TG: HDL ratio. The lipid profile was altered in patients with skin tags, and it was statistically significant with TG, LDL and HDL levels. TC, BMI and TG: HDL ratio. [Table 2].

Other studies have also reported an association between lipid profile and skin tags, but there are differences in individual lipid level.^[13,14] In a study by Erdogan et al., total cholesterol was significantly higher in patients with skin tags.^[13] A recent study observed higher total cholesterol, triglyceride, low-density lipoprotein cholesterol levels and lower HDL cholesterol in patients

with skin tags.^[14] Another study conducted by Sari et al., found that the frequency of dyslipidemia was 59.3%.^[1] The number of skin tags was significantly related to the BMI, as indicated by Puneet and Deepak.^[15]

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CONCLUSION

In this study there is significant association of skin tags and dyslipidemic lipid profile, and obesity. Skin tags may be one of the important markers for atherogenic lipid profile.

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