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Assessment of Glycosylated hemoglobin and lipid profile among patients with skin tags in Khartoum State-Sudan

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ABSTRACT

Background: Skin tags (acrochordons) are the common small benign connective tissue tumor of the dermis that occurs in old subjects usually located on the neck and the major flexors .and the aim of this study to estimate the prevalence of Diabetes Mellitus and dyslipidemia among patients with Skin Tags in Khartoum state.
Material and Methods: This is descriptive case control study and was conducted during the period from March to July 2018. In this study 50 [28 (56%) male and 22 (54%) female] patients with skin tags and 20 [11 (55%) male and 9 (45%) female] healthy individual are randomly selected, blood samples were collected after fulfillment of questionnaire, fasting venous blood collected in fluoride oxalate container for fasting glucose, cholesterol and triglycerides and 2.5ml venous blood in EDTA for HbA1c, and were analysis by spectrophotometer for glucose cholesterol and triglycerides and ichroma for HbA1c,obtained results were analyzed statistically by using SPSS.
Results: The mean of fasting blood glucose, HbA1c, cholesterol and triglycerides of case is (111mg.dl, 5.6 %, 205mg.dl, 160mg.dl) respectively. And the mean of fasting blood glucose, HbA1c, cholesterol and triglycerides of healthy individual is (86mg.dl, 5.0%, 149mg.dl, 170mg.dl) respectively. 62.2% of male has (1-10 ST), 38.5% of male has (11-20 ST) and 37.8% of female has (1-10 ST) ,61.5% has 11-20 ST. case aged 20-40 years (48.6% has 1-10 ST and 15.4% has 11-20 ST), case aged 41-80 years (51.4% has 1-10 ST and 84.6% has 11-20 ST).
Conclusion: There was significant correlation between number of skin tags and mean levels of fasting blood glucose, HbA1c, and fasting serum cholesterol levels, no significant correlation between gender and number of ST, significant correlation between age and number of ST.

Keywords: Skin Tags, Fasting Blood Glucose, Hba1c, Cholesterol, Triglycerides, Sudanese

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BACKGROUND

Skin tags: Skin tags (acrochordons) are the common small benign connective tissue tumor of the dermis, most are minute 1 to 5 mm in the length, flesh colored to hyper pigmented pedunculated papilloma. [1] Characteristically attached by short, thin stalk. They are most common on the neck, axilla and skin folds.[2] They are also name soft fibromas, fibro epithelial polyps. [3] These lesions are extremely common in adult population over 40 year of age and increase incidence in the elderly. [4] Acrochordons are most frequent in obesity [5], hormonal imbalance [6] metabolic syndrome [7] and other condition have been reported as contributing factors. Histological, Skin tags classify as fibromas with hyperplasic epidermis connected to the skin on connective tissue stalk. [8] The over lining epidermis is essentially normal. The skin tags appear as an outgrowth of skin. The dermis appears normal and there is a minimal inflammatory infiltrate present. [1] Skin tags remain asymptomatic and are usually not painful unless they become inflamed or irritated. [9] Most patients with skin tags consult a doctor for cosmetic reasons. Multiple STs are frequently associated with non-insulin dependent diabetes mellitus and obesity. [5]

Clinical findings: Skin tags can be found throughout the adult population. They have no sex or race predilection. They are completely benign skin growth that has no malignant potential. Skin tags are almost never seen in children. Most skin tags are minute 1 to 5 mm in length, with a skin-colored to slightly hyper pigmented appearance. [10] The lesion develop on the skin surface that rub together or that chronically rub against clothes. [11]

Histology: Skin tag histological classifies as fibromas with hyperplasic epidermis connected to the skin on connective tissue stalk. [11] The overlying epidermis is essentially normal. The skin tag appears as an outgrowth of the skin. The dermis appears normal, and there is a minimal inflammatory infiltrate present. [10]

MATERIAL AND METHODS

This is a comparative case control study. The study was conducted at Khartoum state (Alanood hospital). This study was conducted during the period from March to July 2018. All population with skin tags (at least three skin tags) in different age and gender selected randomly (50 patients with skin tags (28 male and 22 female)) and (20 healthy individual (11 male and 9 female)). Questionnaire: data were collected using well-structured questionnaire make with patient face to face (age, gender, number of skin tags, location of skin tags, medical history). Under a septic condition fasting venous blood (2.5 ml) were be collected in fluoride oxalate container for fasting blood glucose, cholesterol and triglycerides and 2.5 ml venous blood in EDTA for HbA1c. And were analysis by spectrophotometer for glucose, cholesterol and triglycerides and ichroma for HbA1c, obtained results were analyzed statistically by using SPSS.

Ethical Clearance

All participants in the study had to sign consent for participation and the results of investigations were to be conveyed to their treating doctors who will discuss results with them and provide the necessary treatment.

Sampling Procedure

Under a septic condition fasting venous blood (2.5 ml) were be collected in fluoride oxalate container for fasting blood glucose , cholesterol and triglycerides and 2.5 ml venous blood in EDTA for HbA1c.

Quality Control

The precision and accuracy of all methods use in this study were checked at each batch using commercially prepared control sera.

Statistical Analysis

Data were analyzed using computerized program SPSS (T test).

RESULTS

Table 1: Comparison between the mean of fasting glucose, HbA1c, Cholesterol and Triglycerides in patient with skin tags and in healthy individuals

Parameters	Study groups	No	Mean	Std. Deviation	p.value
Glucose (Mg dl)	Case	50	111	16.1	0.00
	Control	20	86	11.5	
HbA1c (%)	Case	50	5.8	0.6	0.00
	Control	20	5.0	0.6	
Cholesterol (Mg dl)	Case	50	205	27.8	0.00
	Control	20	149	48.7	
Triglycerides (Mg dl**)**	Case	50	160	34.0	0.2
	Control	20	170	34.3	

Table 2: Comparison between the mean of fasting glucose, HbA1c, Cholesterol and Triglycerides with different number of skin tags

Parameters	No of skin tag	Mean	Std. Deviation	p.value
Glucose (Mg dl)	1-10	108	14.0	0.01
	11-20	121	18.4	
HbA1c (%)	1-10	5.6	0.4	0.00
	11-20	6.2	0.9	
Cholesterol (Mg dl)	1-10	200	29.3	0.03
	11-20	219	17.0	
Triglycerides (Mg dl)	1-10	161	35.2	0.8
	11-20	159	31.9	

Table 3: comparison between the frequency and percentage of gender and number of skin tag

			No of skin tag		p.value
			1-10	11-20	
Gender	Male	**Frequency**	23	5	0.1
		Percentage	62.2%	38.5%	
	Female	**Frequency**	14	8	
		Percentage	37.8%	61.5%	

Table 4: comparison between the frequency and percentage of age and number of skin

			No of skin tag		p.value
			1-10	11-20	
Age	20–40 years	**Frequency**	18	2	0.03
		Percentage	48.6%	15.4%	
	41–80 years	**Frequency**	19	11	
		Percentage	51.4%	84.6%	

DISCUSSION

A total of 50 cases: [28 (56%) male and 22 (54%) female] and a total of 20 healthy control [11 (55%) male and 9 (45%) female]. All the results were expressed as mean+ or – SD value. The fasting blood glucose was higher in patients with skin tags and was statistically significant [p value <0.05] shows in table 1. The mean of case (111mg/dl) is higher than mean of control (89mg/dl). The overall patients [34 (69%)] were impaired FBG according to WHO criteria.

The HbA1c in case was higher in patients with skin tags and was statistically significant [p value <0.05] shows in table 1, the mean of case (5.8%) is higher than mean of control (5%).

These results of FBG and HbA1c go in accordance with the finding of other study which has found a relationship between Skin Tags and diabetes mellitus. [12, 13, 14, 15]

The total cholesterol in case is higher in patients and was statistically significant [p value <0.05], the triglycerides in case is less than control and was not statistically significant [p value >0.05] shows in table 1, these result go accordance of other study which found relationship between Skin Tags and dyslipidemia [16] and discordance of study which found no relationship between Skin Tags and dyslipidemia. [17]

There was statistically significant correlation between mean of FBG, HbA1c and total cholesterol with number of Skin Tags, and no significant correlation between triglycerides and number of Skin Tags, as shown in table 2. There was statistically significant correlation between gender and number of skin tags, as shown in table 3. There is no significant correlation between age and number of Skin Tags, as shown in table 4.

The most frequent localization of acrochordon was face and neck.

CONCLUSION

There was statistically significant association between Skin Tags with glucose, HbA1c and cholesterol levels. There was statistically significant association between number of Skin Tags with glucose, HbA1c and cholesterol level. There was statistically significant correlation between gender and number of skin tags.

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