

A Clinical Study of Acrochordons and Its Correlation with Serum Lipid Profile

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Abstract:

Background:

Acrochordons, also known as skin tags are common, pedunculated or sessile, soft, benign skin tumors most commonly seen on neck, axilla, groin. Usually, acrochordons are given little importance in dermatological literature as they considered as having minimal consequence, but in recent days, many reports in the literature have been found showing the association of acrochordons with obesity, dyslipidemia and diabetes mellitus.

Materials and Methods: This is a descriptive study, conducted from March 2022 to August 2022 at PES Institute of Medical Sciences And Research, Kuppam. 60 patients with acrochordons who met the inclusion criteria were included in study. BMI was calculated and fasting serum lipid levels were estimated using enzymatic methods.

Results: 34 females(56.7%) and 26 males (43.3%) were included in study. A positive association was noted between increasing BMI values and acrochordons in the study patients. Serum LDL, Triglyceride levels were elevated and serum HDL cholesterol levels were reduced in majority of patients.

Conclusion: Acrochordons are the cutaneous findings that are frequently linked to obesity and dyslipidemia. Therefore, follow up and monitoring these patients for the development of atherosclerotic disorders may be helpful in starting early medical therapies and possibly preventing dreaded cardiovascular disease consequences.

Key words: Acrochordon, skin tags, BMI, Fasting lipid profile

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I. Introduction

Acrochordons are very common and appear as soft, pedunculated tumours that range in colour from skin-colored to somewhat hyperpigmented.¹ Most common sites involved are the neck, axilla, inframammary region, and major flexures. Males and females are equally affected and about 50% of people have at least one skin tag.² Recent studies suggest that presence of acrochordons is associated with obesity, diabetes mellitus and dyslipidemia.³ Dyslipidemia denotes increased levels of Low density lipoprotein cholesterol(LDL), total cholesterol(TC), hypertriglyceridemia, decreased levels of High density lipoprotein (HDL) present singly or in combination. Dyslipidemia is commonly seen among people and thus seemed to be necessary for screening the patients with acrochordons. This study is designed to identify the possible correlation between acrochordons and dyslipidemia.

II. Materials And Methods

This is a descriptive study which was conducted from March 2022 to August 2022 at PES Institute of Medical Sciences And Research, Kuppam.

Study design: Descriptive study.

Study Location: Department of Dermatology, Venereology and Leprosy, PES Institute of Medical Sciences & Research, Kuppam, Andhra Pradesh.

Study Duration: March 2022 to August 2022.

Sample size: 60 patients. Sample study was obtained with consecutive sampling.

Inclusion criteria:

1. Patients above 18 years of age with acrochordon at any site.
2. Patients who agreed for blood investigations and gave consent for it.

Exclusion criteria:

1. Patients with history of endocrine diseases such as acromegaly, Cushing's syndrome, pheochromocytoma, hyperthyroidism.
2. Patients who are on oral contraceptive pills, lipid lowering drugs.
3. Pregnant and lactating women.

Procedure methodology:

A total of 60 patients were included in the study. Informed consent was taken from patients and a pre-structured questionnaire was used to collect the data. BMI was calculated and after a 12-hour fasting period, venous blood was taken in the morning to measure serum lipid profile including Total cholesterol, LDL cholesterol, HDL cholesterol and Triglycerides levels. The data will be entered into MS Excel 2019 version and further analyzed using SPSS version 21. The data is represented in the form of frequency and percentages using tables and graphs.

Classification of patients BMI based on International Association for The Study of Obesity WHO 2000, in which underweight <18.5 kg/m², normal 18.5–22.9 kg/m², at risk 23–24.9 kg/m², obesity I - 25–29.9 kg/m², and obesity II ≥30 kg/m²

Statistical analysis:

The data will be entered into MS Excel 2019 version and further analyzed using SPSS version 21. The data is represented in the form of frequency and percentages using tables and graphs.

III. Results

In the study, majority of patients belonged to the age group of 41–55 years (35%) followed by age group 26–40 years (31.7%).

Out of 60 patients 34 were females (56.7%) and 26 were males (43.3%). Solitary lesion of acrochordon was seen in 33.3% patients and multiple acrochordons were seen in 66.7% patients.

Neck was the most common site involved in 86.6% followed by axilla in 80% of patients. Family history of acrochordons was noted in 31.7% patients.

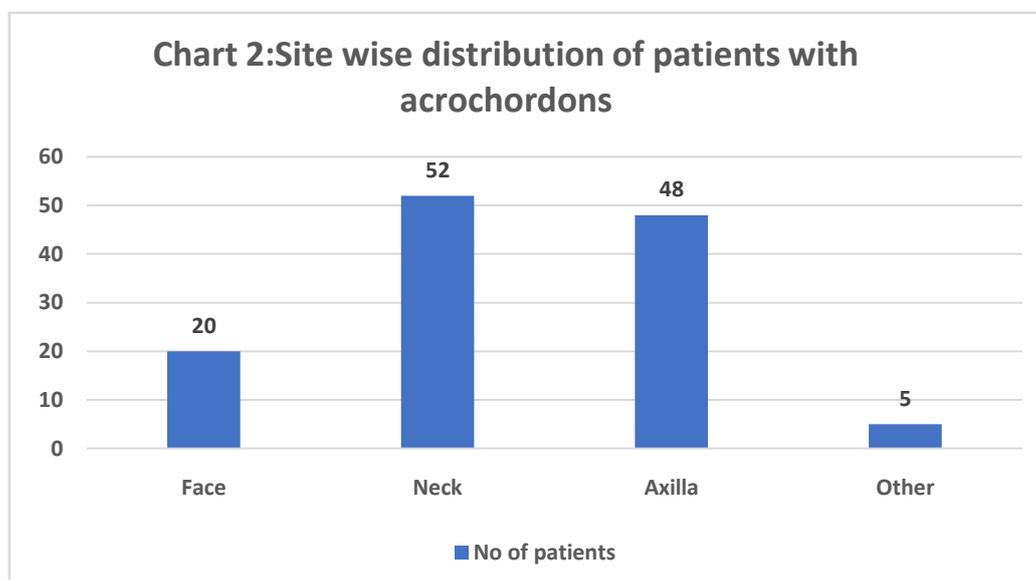
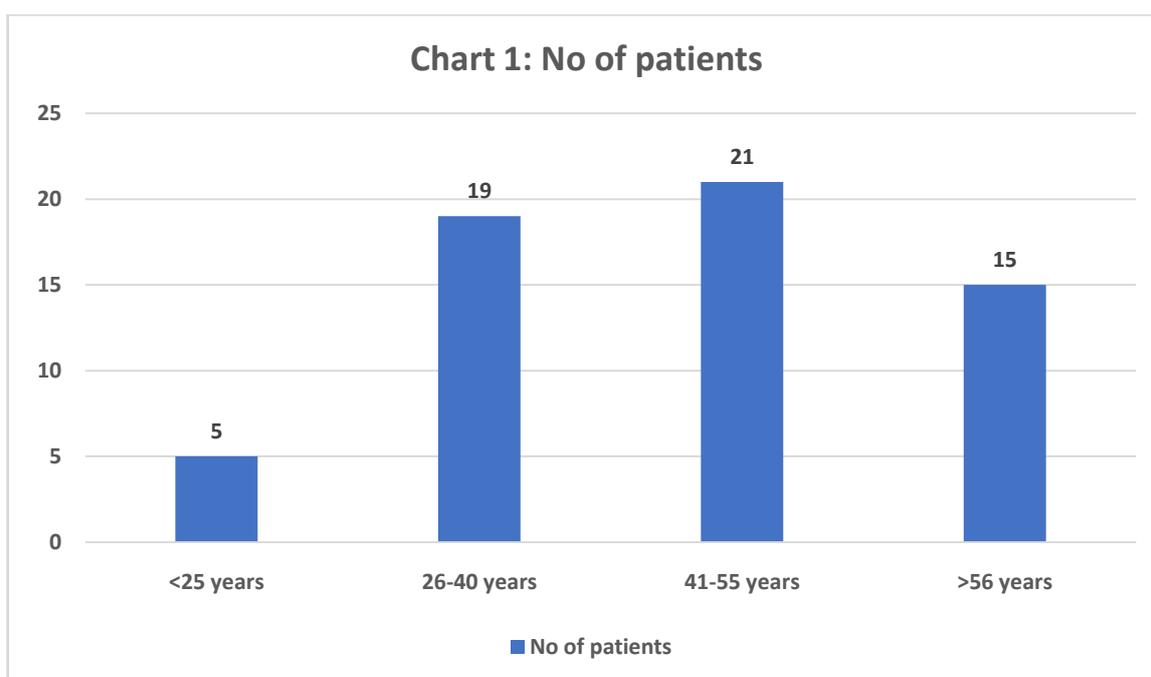
Acanthosis nigricans (41.7%) was the most common finding found in patients with acrochordon followed by Dermatosis papulosa nigra in 13.3% patients with acrochordons.

When the International BMI classification was applied for the study group of patients, 53% were classified as obese grade 1. Table no 1 shows Demographic and acrochordon characteristic of patients.

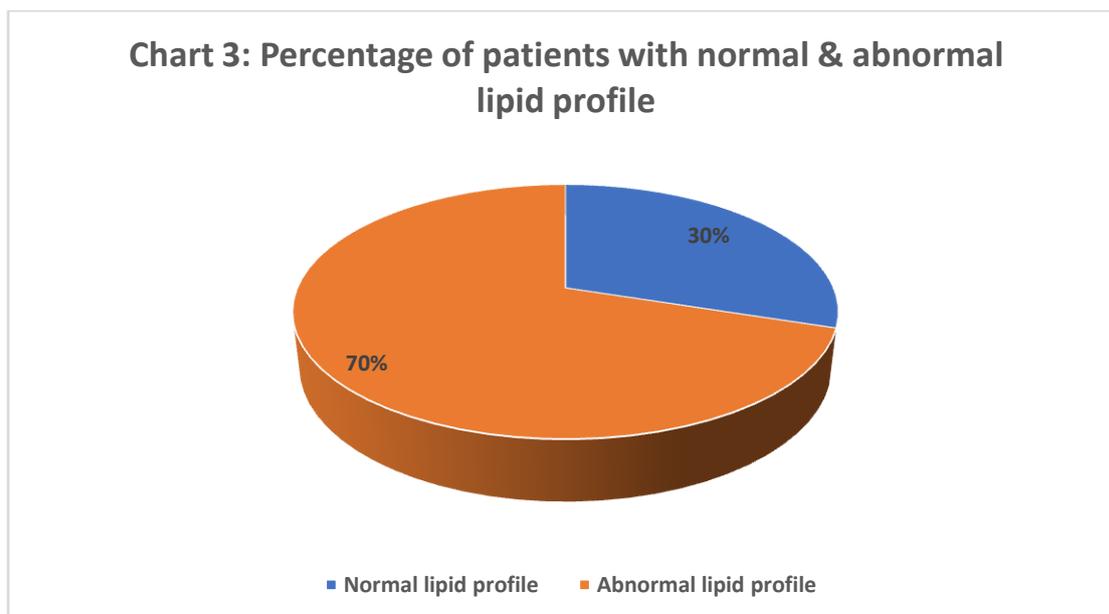
Table 1: Demographic and acrochordon characteristic of patients

PARAMETER	No of patients n(%) (n=60)
Age (chart no 1)	
< 25 years	5 (8.3%)
26 – 40 years	19 (31.7%)
41 – 55 years	21 (35%)
>56 years	15 (25%)
Sex	
Male	26 (43.3%)
Female	34 (56.7%)
Occupation	
Business	8 (13.3%)
Agriculture	22 (36.7%)
House wife	15 (25%)
Others	15 (25%)
Family history of acrochordons	
Present	19 (31.7%)
Absent	41 (68.3%)

No of acrochordons	
Single	20 (33.3%)
Multiple	40 (66.7%)
Site wise distribution (chart no 2)	
Face	20 (33.3%)
Neck	52 (86.6%)
Axilla	48 (80%)
Other	5 (8.3%)
Body mass index	
Normal: 18.5 – 22.9 kg/m ²	1 (1.7%)
At risk : 23 – 24.9 kg/m ²	9 (15%)
Obesity grade 1: 25 – 29.9 kg/m ²	35 (58.3%)
Obesity grade 2 :≥ 30 kg/m ²	15 (25%)
Associated conditions with acrochordons	
Acanthosis nigricans	25 (41.7%)
Dermatosis papulose nigra	8 (13.3%)
Seborrheic keratosis	2 (3.3%)
Xanthelasma palpebrum	1 (1.7%)
Nil	24 (40%)



Out of 60 patients with acrochordons, 18 patients (30%) had normal lipid profile and 42 patients (80%) had abnormal lipid profile.(Chart 3).



Out of 16 patients (26.7%) had desirable levels of Triglycerides(<150mg/dl), whereas 33 patients (55%) had borderline levels(150-199mg/dl) and 11 patients (18.3%) had high levels of triglyceride levels(>200mg/dl). Borderline levels of HDL cholesterol (35-45mg/dl) was seen in majority of patients(48.3%) and normal levels of HDL cholesterol (>60mg/dl) was noticed in 46.7% patients.

Out of 60 patients, 28 patients (46.7%) had borderline levels of LDL cholesterol(130-159mg/dl), 26 patients(43.3%) had normal LDL levels(<130mg/dl) and 6 patients(10%) had high LDL levels(>160mg/dl). Normal desirable levels of Total cholesterol(<200mg/dl) was seen in 27 patients (45%), borderline levels (200-239mg/dl) in 25 patients (41.7%) and high levels (>240mg/dl) in 8 patients (13.3%). Table no 2 shows the percentage of serum lipid profile in patients

Table 2 : Percentage of serum lipid profile in patients (n=60)

VARIABLE	No of patients	Percentage
TRIGLYCERIDE		
Normal(<150mg/dl)	16	26.7%
Borderline(150-199mg/dl)	33	55%
High(>200mg/dl)	11	18.3%
HDL CHOLESTEROL		
Normal(>60mg/dl)	28	46.7%
Borderline(35-45mg/dl)	29	48.3%
High risk(<35mg/dl)	3	5%
LDL CHOLESTEROL		
Normal(<130mg/dl)	26	43.3%
Borderline(130-159mg/dl)	28	46.7%
High risk(>160mg/dl)	6	10%
TOTAL CHOLESTEROL		
Normal(<200mg/dl)	27	45%
Borderline(200-239mg/dl)	25	41.7%
High(>240mg/dl)	8	13.3%



Fig 1: Solitary Acrochordon



Fig 2: Multiple Acrochordons

IV. Discussion

In the present study females were affected more than males, whereas in other studies by Agarwal et al,⁴Thappa DM,⁵ Banik R et al,⁶ males were affected more than females which does not correlate with the results of present study.

Most common site of acrochordons in the present study was neck (86.6%) followed by axilla (80%). This finding is consistent with other studies by Shrestha P et al,⁷Tamega A et al,⁸ Shah R et al,⁹ where neck was the most common site involved followed by axilla. Whereas in a study by Agarwal et al,⁴ axilla was the most common site (64%), followed by trunk (44%), neck (41%).

Acrochordons were most commonly associated with acanthosis nigricans (41.7%) in present study. This finding is in agreement with a study by Tamega A et al.⁸ in which most common cutaneous manifestation associated with acrochordons is acanthosis nigricans.

In the current study, 73.3% patients with acrochordons had high serum Triglyceride levels which is in concordance with other studies by Shah R et al,⁹Tamega A et al.⁸

53.3% patients with acrochordons had low serum HDL cholesterol levels in present study. This is similar to other studies by Shah R et al⁹ and the report of Crook.¹⁰

Serum Total cholesterol was raised in 55% patients and Serum LDL cholesterol was raised in 56.7% patients with acrochordons in the current study. Shah et al found significant correlation between increased serum Total cholesterol levels, increased serum LDL cholesterol levels and skin tags patients.⁹

V. Conclusion

Acrochordons are the cutaneous findings that are frequently linked to obesity and dyslipidemia. Therefore, follow up and monitoring these patients for the development of atherosclerotic disorders may be helpful in starting early medical therapies and possibly preventing dreaded cardiovascular disease consequences.

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