Section: General Medicine

Original Research Article

CORRELATIVE STUDY OF EPICARDIAL FAT THICKNESS AND SEVERITY OF CORONARY ARTERY DISEASE

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ABSTRACT

Background: Aim: To assess the correlation between epicardial fat thickness and severity of coronary artery disease.
Materials and Methods: This Cross sectional study was conducted with 100 Patients who underwent coronary angiogram in Dr. PSIMS & RF hospital for various indications during the study period from October 2018 - September 2020, fulfilling the inclusion and exclusion criteria.
Results: correlation between epicardial fat thickness and severity of coronary artery disease was assessed and results were tabulated.
Conclusion: Epicardial adipose tissue thickness was found to be increasing with increasing Gensini score. This shows that the thickness corresponds with the severity of coronary artery disease. It can be considered as an independent variable that can predict the risk of coronary artery disease apart from smoking, alcohol, dyslipidemias and obesity.
Keywords: Coronary artery disease, Mortalty, ECG, CAD, Epicardial fat.

INTRODUCTION

Coronary artery disease (CAD) is one of the major contributors to cardiovascular diseases. All over the world CAD is the major and leading cause of morbidity and death. Among Indian population, CAD remains in top five causes of mortality.[1]
Stable angina or angina pectoris may occur in patients with CAD based on plaque features and degree of stenosis or narrowing. In some cases, CAD may remain asymptomatic till the rupture of plaque, which can lead to thrombosis and causes ACS.[2] Population-based studies have provided data on blood pressure, smoking history, TC and HDL-C levels, diabetes, and left ventricular hypertrophy on the ECG to predict CAD at a follow-up interval of several years. Simple score sheets are prepared from different predicting factors and make it easy for physicians to evaluate multivariable CAD risk among middle-aged patients.[3]

MATERIALS AND METHODS

This Cross sectional study was conducted with 100 Patients who underwent coronary angiogram in Dr. PSIMS & RF hospital for various indications during the study period from October 2018 - September 2020, fulfilling the inclusion and exclusion criteria.

Inclusion Criteria

1. Patient's age above 18 years
2. Patients undergoing coronary angiogram for various indications such as Stable angina, Unstable angina, STEMI, NSTEMI

Exclusion Criteria

1. Patient's with previous history of cardiac procedures
2. Poor ECHO window
3. Patients who have underwent thrombolysis prior to coronary angiogram 4. Patients not willing for the study

Method of data collection

Patients who were admitted under department of cardiology and posted for coronary angiogram were selected for the study

Meticulous screening of the patients was done and those who satisfied both inclusion and exclusion criteria were enrolled for the study.

Data was collected in a pretested proforma which included name, age, sex of the patient, relevant present history, past history, history of smoking or alcohol consumption, ECG changes, Echocardiography findings and other relevant investigation reports.

Epicardial fat thickness was visualized and measured with two-dimensional (2D) echocardiography by a trained echo-technician and interpreted by a cardiologist using Philips HD 11 SE echo machine. Epicardial fat was identified as the relatively echo-free space between the outer wall of the myocardium and the visceral layer of pericardium; its thickness was measured perpendicularly on the free wall of the right ventricle.[4]

Statistical Analysis: Data was entered into Microsoft Excel (Windows 7; Version 2007) and analyses were done using the Statistical Package for Social Sciences (SPSS) for Windows software (version 22.0; SPSS Inc, Chicago). Descriptive statistics such as mean and standard deviation(SD) for continuous variables, frequencies and percentages were calculated for categorical Variables were determined. Bar charts and Pie charts were used for visual representation of the analysed data. Level of significance was set at 0.05.

RESULTS

Distribution of subjects according to age

Age	Frequency	Percent
32-40	6	6.0
41-50	28	28.0
51-60	34	34.0
61-70	27	27.0
>70	5	5.0
Total	100	100.0

EFT values were tested for around 6 patients in the age group of 32-40,28 patients in the age group of 41-50,34 patients in the age group of 51-60,27 patients in the age group of 61-70,5 patients in the age group of >70yrs

Relation between EAT and age

Variable	AGE	Min.	Max.	Mean	SD	Median	IQR	P-value
GENSINI SCORE	32-40	0	8	2.33	3.20	1.00	5	0.45
	41-50	0	32	5.64	6.84	4.00	8	
	51-60	0	32	4.79	6.76	2.00	8	
	61-70	0	32	8.04	9.17	4.00	16	
	>70	0	32	8.80	13.31	2.00	19	
EAT	32-40	3.3	4.9	4.07	0.62	4.15	1.2	0.46
	41-50	3.1	6.2	4.26	0.76	4.30	1.1	
	51-60	2.9	6.3	4.18	0.91	4.10	1.3	
	61-70	3.3	6.4	4.56	0.92	4.30	1.6	
	>70	3.6	6.4	4.52	1.16	3.90	2.0	

EFT with respect to age shows that the mean values of EFT are around 4.07 with standard deviation (SD ± 0.62) for 32-40yrs, mean 4.26 with standard deviation (SD ± 0.76) for 41-50yrs, mean4.18 with standard deviation (SD ± 0.91) for 51-60yrs, mean4.56 with standard deviation (SD ± 0.92) for 61-70yrs, mean4.52 with standard deviation (SD ± 0.76) for >70yrs. The Asymptotic Significance of p value is 0.46 (>0.01). This shows that the EFT values were NOT significantly different with respect to age.

Distribution of subjects according to sex

Sex	Frequency	Percent
Female	36	36.0
Male	64	64.0
Total	100	100.0

Relation between EAT and sex

EFT values were tested for around 64 male patients and 36 female patients. EFT with respect to gender shows that the mean values of EFT are around 4.38 (SD ± 0.89) for male and 4.20 (SD ± 0.84) for female patients.

Variable	SEX	Min.	Max.	Mean	SD	Median	IQR	P-value
GENSINI SCORE	FEMALE	0	32	5.00	7.87	2.00	8	0.14
	MALE	0	32	6.50	7.75	4.00	8	
EAT	FEMALE	3.1	6.4	4.20	0.84	4.10	1.0	0.34
	MALE	2.9	6.4	4.38	0.89	4.30	1.3	

The Asymptotic Significance of p value is 0.34 (>0.01). This shows that the EFT values were NOT significantly different with respect to both male and female patients.

Distribution of subjects according to ECG changes

ECG changes	Frequency	Percent
None	19	19.0
Present	81	81.0
Total	100	100.0

Relation between ECGchanges and EAT

EFT values were tested for around 81 patients with ECG changes 19 patients WITHOUT. ECG changes. EFT with respect to those patients with ECG changes shows mean value of 4.45 (SD ± 0.86) and 3.71 (SD ± 0.65) for patients without ECG changes.

Variable	ECG changes	Min.	Max.	Mean	SD	Median	IQR	P-value
GENSINI SCORE	None	0	8	1.21	2.59	0.00	1	<0.001
	Present	0	32	7.07	8.18	4.00	6	
EAT	None	2.9	5.3	3.71	0.65	3.60	1.0	<0.001
	Present	3.1	6.4	4.45	0.86	4.40	1.2	

The Asymptotic Significance of p value is <0.001; (<0.01). This shows that the EFT values were significantly different in patients with or without ECG changes.

Distribution of subjects according to Arrhythmias

Arrhythmias	Frequency	Percent
No	95	95.0
Yes	5	5.0
Total	100	100.0

Relation between EAT and Arrhythmias:

EFT values were tested for around 5 patients WITH obesity and 95 patients WITHOUT Arrhythmias. EFT with respect to those patients with obesity shows mean value of 4.72 (SD ± 0.99) and 4.29 (SD ± 0.86) for patients without Arrhythmias.

Variable	Arrhythmias	Min.	Max.	Mean	SD	Median	IQR	P-value
GENSINI SCORE	NO	0	32	5.73	7.49	4.00	8	0.29
	YES	0	32	10.40	12.52	8.00	18	
EAT	NO	2.9	6.4	4.29	0.86	4.20	1.3	0.3
	YES	3.6	6.3	4.72	0.99	4.60	1.6	

The Asymptotic Significance of p value is 0.3; (>0.01). This shows that the EFT values were NOT significantly different in patients with or without Arrhythmias.

Distribution of subjects according to diastolic dysfunction

Diastolic dysfunction	Frequency	Percent
Grade 1	57	57.0
Grade 2	11	11.0
Grade 3	13	13.0
Normal	19	19.0
Total	100	100.0

EFT values were tested for around 57 patients with Diastolic dysfunction grade1,11 patients with diastolic dysfunction grade 2,13 patients with diastolic dysfunction grade3 and 19 patients with diastolic dysfunction grade 4.

Relation between EAT and grade of Diastolic Dysfunction

Variable	Diastolic dysfunction	Min.	Max.	Mean	SD	Median	IQR	P value
GENSINI SCORE	GRADE 1	0	32	6.42	8.59	4.00	8	0.08
	GRADE 2	0	8	4.00	3.10	4.00	8	
	GRADE 3	2	16	7.38	5.50	8.00	10	
	NORMAL	0	32	4.74	8.52	0.00	8	
EAT	GRADE 1	3.1	6.4	4.33	0.91	4.30	1.4	0.39
	GRADE 2	3.1	4.7	4.18	0.47	4.30	0.4	
	GRADE 3	3.4	5.8	4.58	0.78	4.60	1.5	
	NORMAL	2.9	6.3	4.15	0.99	3.70	1.5	

EFT with respect to those patients with Diastolic dysfunction of grade 1 showed mean value 4.33(SD±0.91), of grade 2 with mean 4.18(SD±0.47), of grade 3 with mean 4.58(SD±0.78) and normal showing mean 4.15(SD±0.99).

The Asymptotic Significance of p value is 0.39; (>0.01). This shows that the EFT values were NOT significantly different in patients with respect to grade of diastolic dysfunctions.

Distribution of subjects with and without diabetes mellitus

DM	Frequency	Percent
No	53	53.0
Yes	47	47.0
Total	100	100.0

Relation between EAT and Diabetes Mellitus

EFT values were tested for around 47 patients WITH DIABETES and 53 patients WITHOUT DIABETES. EFT with respect to those patients with Diabetes shows mean value of 4.46 (SD ± 0.83) and 4.18 (SD ± 0.89) for patients without Diabetes.

Variable	DM	Min.	Max.	Mean	SD	Median	IQR	P value
GENSINI SCORE	NO	0	32	4.94	8.09	2.00	8	0.006
	YES	0	32	7.11	7.35	4.00	6	
EAT	NO	2.9	6.4	4.18	0.89	3.90	1.3	0.006
	YES	3.1	6.4	4.46	0.83	4.40	1.2	

The Asymptotic Significance of p value is 0.006; (<0.01). This shows that the EFT values were significantly different in patients with or without Diabetes.

Distribution of subjects with and without hypertension

HTN	Frequency	Percent
No	38	38.0
Yes	62	62.0
Total	100	100.0

Relation between EAT and Hypertension

EFT values were tested for around 62 patients WITH Hypertension and 38 patients WITHOUT Hypertension. EFT with respect to those patients with hypertension shows mean value of 4.28 (SD ± 0.84) and 4.37 (SD ± 0.93) for patients without hypertension.

Variable	HTN	Min.	Max.	Mean	SD	Median	IQR	Pvalue
GENSINI SCORE	NO	0	32	6.42	8.92	4.00	8	0.84
	YES	0	32	5.68	7.07	4.00	8	
EAT	NO	2.9	6.3	4.37	0.93	4.30	1.3	0.65
	YES	3.1	6.4	4.28	0.84	4.25	1.1	

The Asymptotic Significance of p value is 0.65; (>0.01). This shows that the EFT values were NOT significantly different in patients with or without hypertension.

Distribution of subjects with and without smoking habit

Smoking	Frequency	Percent
No	57	57.0
Yes	43	43.0
Total	100	100.0

Relation between EAT and Smoking

EFT values were tested for around 43 patients WITH Smoking habit and 57 patients WITHOUT Smoking habit. EFT with respect to those patients with smoking habit shows mean value of 4.39 (SD ± 0.86) and 4.26 (SD ± 0.89) for patients without smoking habit.

Variable	SMOKING	Min.	Max.	Mean	SD	Median	IQR	P-value
GENSINI SCORE	NO	0	32	5.61	8.00	4.00	8	0.23
	YES	0	32	6.42	7.56	4.00	7	
EAT	NO	3.1	6.4	4.26	0.89	4.20	1.1	0.36
	YES	2.9	6.3	4.39	0.86	4.30	1.2	

The Asymptotic Significance of p value is 0.36; (>0.01). This shows that the EFT values were NOT significantly different in patients with or without Smoking habits

Distribution of subjects with and without Dyslipidemia

Dyslipidemia	Frequency	Percent
No	95	95.0
Yes	5	5.0
Total	100	100.0

Relation between EAT and Dyslipidemia

EFT values were tested for around 5 patients WITH Dyslipidemia and 95 patients WITHOUT Dyslipidemia. EFT with respect to those patients with obesity shows mean value of 3.54 (SD ± 0.51) and 4.35 (SD ± 0.87) for patients without Dyslipidemia.

Variable	DYSLIPIDEMIA	Min.	Max.	Mean	SD	Median	IQR	P-value
GENSINI SCORE	NO	0	32	6.19	7.92	4.00	8	0.17
	YES	0	4	1.60	1.67	2.00	3	
EAT	NO	3.1	6.4	4.35	0.87	4.30	1.3	0.04
	YES	2.9	4.1	3.54	0.51	3.80	1.0	

The Asymptotic Significance of p value is 0.04; 0.01). This shows that the EFT values were NOT significantly different in patients with or without Dyslipidemia.

Distribution of subjects with and without obesity

Obesity	Frequency	Percent
No	92	92.0
Yes	8	8.0
Total	100	100.0

Relation between EAT and Obesity

EFT values were tested for around 8 patients WITH obesity and 92 patients WITHOUT obesity. EFT with respect to those patients with obesity shows mean value of 3.79 (SD ± 0.42) and 4.36 (SD ± 0.89) for patients without obesity.

Variable	OBESITY	Min.	Max.	Mean	SD	Median	IQR	P-value
GENSINI SCORE	NO	0	32	6.43	7.94	4.00	8	0.002
	YES	0	4	0.50	1.41	0.00	0	
EAT	NO	2.9	6.4	4.36	0.89	4.30	1.3	0.08
	YES	3.3	4.6	3.79	0.42	3.70	0.6	

The Asymptotic Significance of p value is 0.002; (<0.01). This shows that the EFT values were significantly different in patients with or without obesity.

Distribution of subjects with and without alcohol habit

Alcohol	Frequency	Percent
No	64	64.0
Yes	36	36.0
Total	100	100.0

EFT values were tested for around 36 patients WITH alcohol consumption habit and 64 patients WITHOUT alcohol consumption habit. EFT with respect to those patients with alcohol consumption habit shows mean value of 4.36 (SD ± 0.90) and 4.29 (SD ± 0.86) for patients without alcohol consumption.

Variable	ALCOHOL	Min.	Max.	Mean	SD	Median	IQR	P-value
GENSINI SCORE	NO	0	32	5.67	7.74	4.00	8	0.37
	YES	0	32	6.47	7.95	4.00	7	
EAT	NO	3.1	6.4	4.29	0.86	4.25	1.3	0.75
	YES	2.9	6.3	4.36	0.90	4.30	1.4	

The Asymptotic Significance of p value is 0.75; (>0.01). This shows that the EFT values were NOT significantly different in patients with or without alcohol consumption habit.

Distribution of subjects with and without normal coronaries

Normal Coronaries	Frequency	Percent
No	70	70.0
Yes	30	30.0
Total	100	100.0

EFT values were tested for around 30 patients WITH normal coronaries and 70 patients WITHOUT normal coronaries. EFT with respect to those patients with alcohol consumption habit shows mean value of 3.50 (SD ± 0.34) and 4.66 (SD ± 0.79) for patients without alcohol consumption habit.

Variable	NORMAL CORONARIES	Min.	Max.	Mean	SD	Median	IQR	Pvalue
GENSINI SCORE	NO	1	32	8.51	8.06	8.00	4	<0.001
	YES	0	0	0.00	0.00	0.00	0	

EAT	NO	3.3	6.4	4.66	0.79	4.60	1.1	<0.001
	YES	2.9	4.3	3.50	0.34	3.45	0.3	

The Asymptotic Significance of p value is <0.001; (<0.01). This shows that the EFT values were significantly different in patients with or without normal coronaries.

Distribution of subjects according to GENSINI score

GENSINI Score	Frequency	Percent
0	30	30
25	4	4
26-50	12	12
51-75	18	18
76-90	20	20
91-99	11	11
100	5	5
Total	100	100

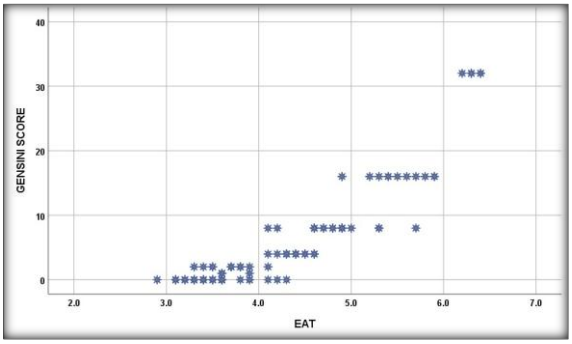
EFT values were tested for around 30 patients with GENSINI score 0,4 patients with GENSINI score 25,12 patients with score 26-50,18 patients with score 51-75,20 patients with 76-90,11 patients with score 91-99 and 5 patients with score 100.

		EAT			
GENSINI SCORE	**N**	**Minimum**	**Maximum**	**Mean**	**SD**
0	30	2.9	4.3	3.50	0.34
25	4	3.6	3.9	3.68	0.15
26-50	12	3.3	4.1	3.68	0.22
51-75	18	4.1	4.6	4.38	0.14
76-90	20	4.1	5.7	4.82	0.36
91-99	11	4.9	5.9	5.51	0.31
100	5	6.2	6.4	6.32	0.08
Total	100	2.9	6.4	4.31	0.87
		P<0.001			

Relation between EAT and GENSINI score

EFT with respect to those patients with score 0 have mean 3.5 (SD ± 0.34), for patients with score 1 have mean 3.68(SD ± 0.15), for patients with score 2 have mean 3.68 (SD ± 0.22), for patients with score 4 have mean 4.38(SD ± 0.14), for patients with score 8 have mean 4.82(SD ± 0.14), for patients with score 16 have mean 5.51(SD ± 0.31)and for patients with score 32 have mean 6.32 (SD ± 0.08). The Asymptotic Significance of p value is <0.001; (<0.01). This shows that the EFT values were significantly increasing with increasing gensini score.

Correlations EAT & GENSINI SCORE	
Pearson Correlation	P-value
0.894	<0.001



EFT = 0.1 X GENSINI SCORE + 3.717, $R^2 = 0.798$ ($y = 0.1x + 3.717$, $R^2 = 0.798$)

DISCUSSION

In the existing literature, few authors have tried to find the correlation between epicardial fat thickness with presence and severity of coronary artery disease with conflicting results.[5,6]

The association between EAT and coronary artery disease has not been well documented in Indian population. Our main aim was to study this association between Epicardial adipose tissue and coronary artery disease

The main results of our study is as follows

1. **Relation between epicardial fat thickness and age**

EFT values were tested for around 6 patients in the age group of 32-40,28 patients in the age group of 41-50,34 patients in the age group of 51-60,27 patients in the age group of 61-70,5 patients in the age group of >70yrs.

EFT with respect to age shows that the mean values of EFT are around 4.07 with standard deviation (SD

± 0.62) for 32-40yrs, mean 4.26 with standard deviation (SD ± 0.76) for 41-50yrs, mean 4.18 with standard deviation (SD ± 0.91) for 51-60yrs, mean 4.56 with standard deviation (SD ± 0.92) for 61-70yrs, mean 4.52 with standard deviation (SD ± 0.76) for >70yrs. The Asymptotic Significance of p value is 0.46 (>0.01).

This shows that the EFT values were NOT significantly different with respect to age.

2. Relation between epicardial fat thickness and sex

EFT values were tested for around 64 male patients and 36 female patients. EFT with respect to gender shows that the mean values of EFT are around 4.38 (SD ± 0.89) for male and 4.20 (SD ± 0.84) for female patients.

The Asymptotic Significance of p value is 0.34 (>0.01).

This shows that the EFT values were NOT significantly different with respect to sex.

3. Relation between epicardial fat thickness and ECG changes

EFT values were tested for around 81 patients with ECG changes 19 patients WITHOUT. ECG changes. EFT with respect to those patients with ECG changes shows mean value of 4.45 (SD ± 0.86) and 3.71 (SD ± 0.65) for patients without ECG changes.

The Asymptotic Significance of p value is <0.001; (<0.01).

This shows that the EFT values were significantly different in patients with or without ECG changes.

4. Relation between EAT and Arrhythmias

EFT values were tested for around 5 patients WITH obesity and 95 patients WITHOUT Arrhythmias. EFT with respect to those patients with obesity shows mean value of 4.72 (SD ± 0.99) and 4.29 (SD ± 0.86) for patients without Arrhythmias.

The Asymptotic Significance of p value is 0.3; (>0.01).

This shows that the EFT values were NOT significantly different in patients with or without Arrhythmias.

5. Relation between Epicardial fat tissue and Diabetes

EFT values were tested for around 47 patients WITH DIABETES and 53 patients WITHOUT DIABETES. EFT with respect to those patients with Diabetes shows mean value of 4.46 (SD ± 0.83) and 4.18 (SD ± 0.89) for patients without Diabetes The Asymptotic Significance of p value is 0.006; (<0.01). This shows that the EFT values were significantly different in patients with or without Diabetes.

In the study done by Arana Pazos et al in 2018 on 120 patients,Type 2 Diabetics have greater epicardial fat thickness than prediabetics and nondiabetics.[7]

6. Relation between Epicardial fat tissue and Hypertension

EFT values were tested for around 62 patients WITH HYPERTENSION and 38 patients WITHOUT HYPERTENSION. EFT with respect to those patients with hypertension shows mean value of 4.28 (SD ± 0.84) and 4.37 (SD ± 0.93) for patients without hypertension

The Asymptotic Significance of p value is 0.65; (>0.01).

This shows that the EFT values were NOT significantly different in patients with or without hypertension.

In the study conducted by Serpil Eroglu et al in 2013 on 230 patients, EAT Thickness is associated with hypertension. Hypertension could be contributing factor for the development of EAT thickness like the other components of metabolic syndrome8.

7. Relation between Epicardial fat tissue and smoking

EFT values were tested for around 43 patients WITH Smoking habit and 57 patients WITHOUT Smoking habit. EFT with respect to those patients with smoking habit shows mean value of 4.39 (SD ± 0.86) and 4.26 (SD ± 0.89) for patients without smoking habit.

The Asymptotic Significance of p value is 0.000; (<0.01).

This shows that the EFT values were NOT significantly different in patients with or without Smoking habits.

In the study done by Manuel Monti et al in 2014, In subjects with metabolic syndrome, cigarette smoking is an independent predictor of increased epicardial fat volume and coronary score.[9]

In study population mean EAT thickness was 3.1 +/- 2.4 mm. In non-high BMI subjects, patients with MS (3.5mm) have significantly higher the median EAT thickness than those without MS. (1.9 mm) ($p < 0.001$). Among high BMI subjects, median EAT thickness does not significantly differ between patients with MS (3.0 mm) and without MS (2.5 mm & $p = 0.813$). As per ROC analysis to predict MS and CAD states the area under the ROC curve was significantly higher in the non-high BMI group than that of the high BMI group (0.659 vs. 0.506, $p = 0.007$& 0.735 vs. 0.657, $p = 0.055$). In both non-high BMI and high BMI groups, CAD patients have significantly greater median EAT thickness than non-CAD patients. (3.5 vs. 1.5 mm, $p < 0.001$ and 4.0 vs. 2.5 mm, $p = 0.001$, respectively). Study findings concluded that there was a significant increase in EAT thickness in patients with MS & CAD patients of non-high BMI group. EAT thickness might be a good predictor for MS and CAD among nonhigh BMI patients (BMI, < 27 kg/m2).[10]

8. Relation between Epicardial fat tissue and Gensini score

EFT values were tested for around 30 patients with GENSINI score 0,4 patients with GENSINI score 25,12 patients with score 26-50,18 patients with score 51-75,20 patients with 76-90,11 patients with score 91-99 and 5 patients with score 100. EFT with respect to those patients with score 0 have mean 3.5 (SD ± 0.34), for patients with score 1 have mean 3.68(SD ± 0.15), for patients with score 2 have mean 3.68 (SD ± 0.22), for patients with score 4 have mean 4.38(SD ± 0.14), for patients with score 8 have mean 4.82(SD

± 0.14), for patients with score 16 have mean 5.51(SD ± 0.31) and for patients with score 32 have mean 6.32 (SD ± 0.08).

The Asymptotic Significance of p value is <0.001; (<0.01).

This shows that the EFT values were significantly increasing with increasing gensini score.

Epicardial coronary artery stenosis of > 50% was the basis to divide into two study groups. CAD group consists of 59 participants and in the non-CAD group, 41 members were there. The mean age of study participants was 56.4 +/- 9.9 years and the number of males were 56 and females were 44. Demographic profile and coronary risk factors were not significantly different between CAD and non-CAD groups. Mean EFT in CAD group was higher than non-CAD patients (3.0 +/- 3.69 mm vs. 1.2 +/- 3.6 mm p <0.0001) but there was no significant difference in PFT between the two groups.

464 patients were taken into CAD group with a mean age of 60.30 +/- 8.36 years. 85 patients were taken into the non-CAD group and the reported mean age of participants was 54.42 +/- 11.93 year. In CAD group mean EAT thickness was 5.10 mm ±1.06 but in non -CAD group slightly less mean values were reported (4.36 +/- 1.01) and the mean difference was statistically significant (p = 0.003). The severity of the coronary artery disease and multivessel disease were the deciding factors for higher values of EAT thickness. Presence of significant coronary stenosis was predicted by EAT of > 4.65 mm with 71.6% sensitivity and 73.1% specificity. As per study findings, the presence and severity of CAD were significantly correlated with.

CONCLUSION

Epicardial adipose tissue thickness was found to be increasing with increasing Gensini score. This shows that the thickness corresponds with the severity of coronary artery disease. It can be considered as an independent variable that can predict the risk of coronary artery disease apart from smoking, alcohol, dyslipidemias and obesity.

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