Results

*** Clinical characteristics of the patients under the study:**

The study was done on 35 males (70%) & 15 females (30%) with mean age group 50.90 ± 8.58 years, and BMI* 28.00 ± 1.79 kg/m^2. The patients were divided into 2 groups:

1- **Stable Angina group:** includes 30 patients with mean age 50.6 ± 8.90, 19 male (63.3%), 11 female (36.7%) with mean BMI 28.3 ± 1.84, 20 (66%) smokers, 22 (73%) hypertensive, and 20 (66%) diabetic.

2- **Unstable Angina group:** includes 20 patients with mean age 51.2 ± 8.18, 16 male (80%), 4 female (20%) with mean BMI 27.7 ± 1.75, 12 (60%) smokers, 12 (60%) hypertensive, and 10 (50%) diabetic. Three patients (15%) have instent restenosis. **See table (7)**

* BMI = Body Mass Index

Table (7)

Clinical characteristics of patients under the study

	Stable Angina group:	Unstable Angina group	P – Value	Significance
Mean Age	50.6 ± 8.90	51.2 ± 8.18	>0.05	Non Significant
Sex	19 male (63.3%), 11 female (36.7%)	16 male (80%), 4 female (20%)	>0.05	Non Significant
BMI	28.3 ± 1.84	27.7 ± 1.75	>0.05	Non Significant
Smokers	20 (66%)	12 (60%)	>0.05	Non Significant
HTN	22 (73%)	12 (60%)	>0.05	Non Significant
D. M.	20 (66%)	10 (50%)	>0.05	Non Significant

* The correlation of LP(a) level and the non-lipid risk factors for CAD :

There is non significant correlation between LP(a) and the non-lipid risk factors for CAD (BMI , Smoking (HTN and DM,).

These findings are showed in tables (13 – 16).

Table (13) Correlation between BMI & LP(a) Plasma level In the patients under the study

	Correlation Coefficient "r"	P value	Significance
Stable angina group	0.174	0.359	Non significant
Unstable angina group	0.082	0.732	Non significant

Table (14)
Correlation between Lp(a) & Smoking
In the patients under the study

	Smoking	LP(a)		Total	Chi^2	P value	Significance
		Normal (<30 mg/dl)	High (≥30 mg/dl)				
Stable angina group	No	2 (6.6%)	8(26.7%)	10(33.3%)	0.12	> 0.05	Non Significant
	Yes	3(10%)	17(56.7%)	20(66.7%)			
	Total	5(16.6%)	25(83.4%)	30(100%)			
Unstable angina group	No	-	8(40%)	8(40%)	2.35	> 0.05	Non Significant
	Yes	3(15%)	9(45%)	12(60%)			
	Total	3(15%)	17(85%)	20(100%)			

Table (15)
Correlation between Lp(a) & Hypertension
In the patients under the study

	Hypertension	LP(a)		Total	Chi^2	P value	Significance
		Normal (<30 mg/dl)	High (≥30 mg/dl)				
Stable angina group	No	1(3.3%)	7(23.3%)	8(26.6%)	0.14	> 0.05	Non Significant
	Yes	4(13.3%)	18(60.1%)	22(73.4%)			
	Total	5(16.6%)	25(83.4%)	30(100%)			
Unstable angina group	No	2(10%)	6(30%)	8(40%)	3.33	> 0.05	Non Significant
	Yes	-	12(60%)	12(60%)			
	Total	2(10%)	18(90%)	20(100%)			

Table (16)
Correlation between Lp(a) & D.M.
In the patients under the study

	D.M.	LP(a)		Total	Chi^2	P value	Significance
		Normal (<30 mg/dl)	High (≥30 mg/dl)				
Stable angina group	No	3(10%)	7(23.3%)	10(33.3%)	1.92	>0.05	Non Significant
	Yes	2(6.6%)	8(60.1%)	20(66.7%)			
	Total	5(16.6%)	25(83.4%)	30(100%)			
Unstable angina group	No	-	10(50%)	10(50%)	3.53	>0.05	Non Significant
	Yes	3(15%)	7(35%)	10(50%)			
	Total	3(15%)	17(85%)	20(100)			

* The correlation of LP(a) level and the lipid – risk factors for CAD :

There is non significant correlation between LP(a) and cholesterol, LDL, HDL or triglycerides P value (> 0.05).

These findings are showed in tables (17 – 20) and presented graphically in figures (8 – 15).

Table (17)

Correlation between Cholesterol & Lp(a)

In the patients under the study

	Correlation Coefficient "r"	P value	Significance
Stable angina group	0.071	0.710	Non Significant
Unstable angina group	0.058	0.860	Non Significant

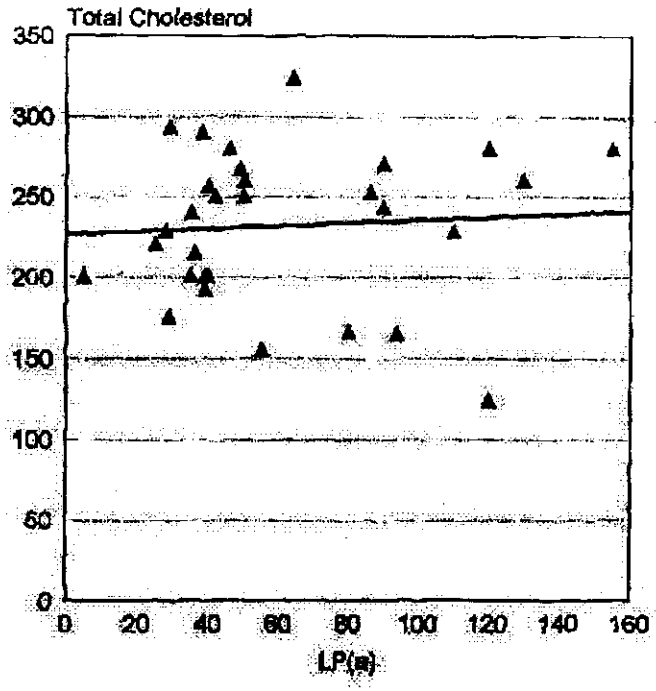

Figure (8) shows non-significant Correlation between Cholesterol & Lp(a) among stable angina group

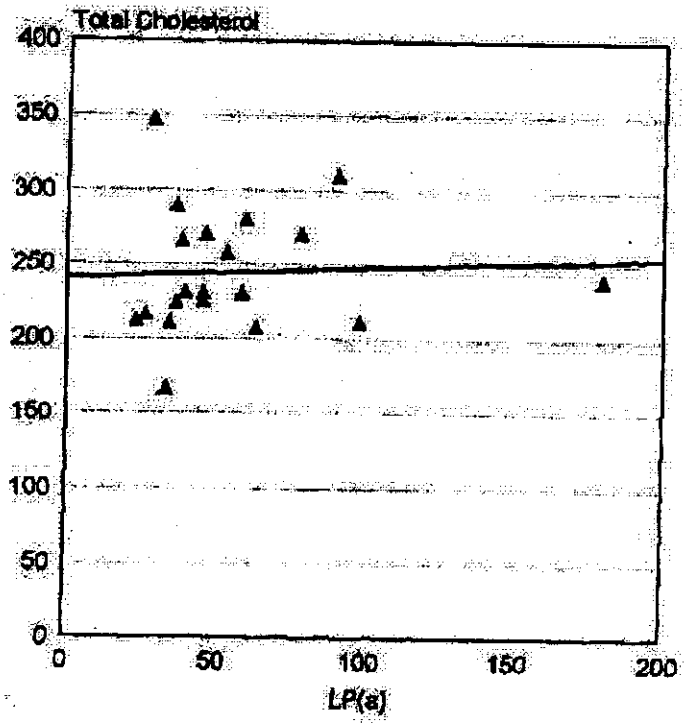

Figure (9) shows non-significant Correlation between Cholesterol & Lp(a) among unstable angina group

Table (18)

Correlation between LDL & Lp(a)

In the patients under the study

	Correlation Coefficient "r"	P value	Significance
Stable angina group	0.040	0.834	Non Significant
Unstable angina group	0.020	0.898	Non Significant

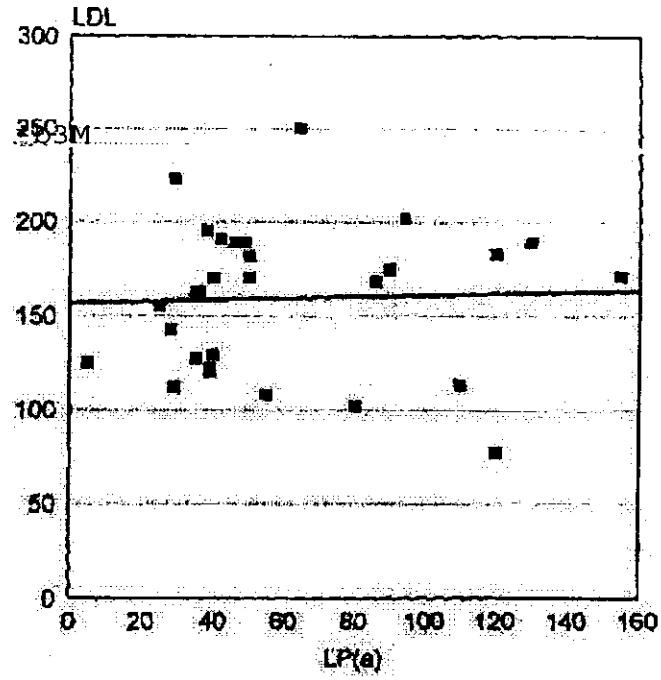

Figure (10) shows non-significant Correlation between LDL & Lp(a) among stable angina group

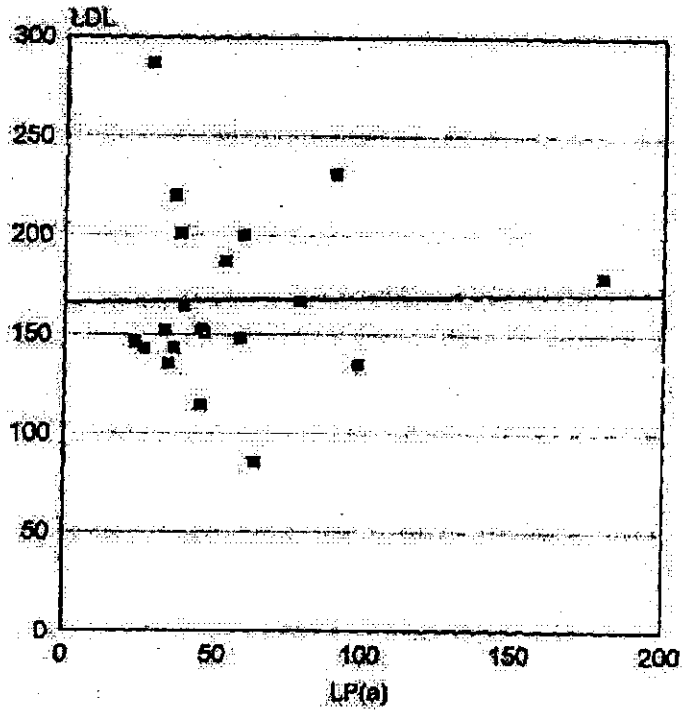

Figure (11) shows non-significant Correlation between LDL & Lp(a) among unstable angina group

Table (19)

Correlation between HDL & Lp(a)

In the patients under the study

	Correlation Coefficient "r"	P value	Significance
Stable angina group	0.174	0.359	Non Significant
Unstable angina group	0.365	0.214	Non Significant

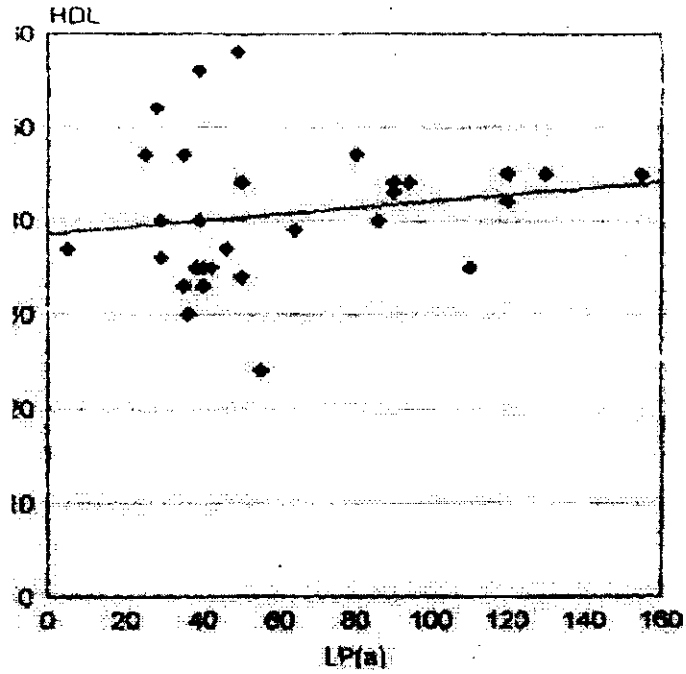

Figure (12) shows non-significant Correlation between HDL & Lp(a) among stable angina group

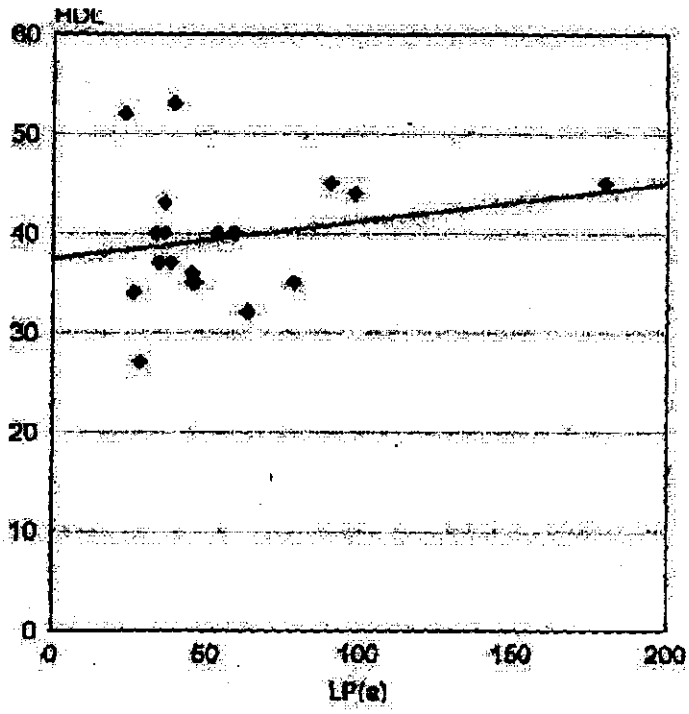

Figure (13) shows non-significant correlation between HDL & Lp(a) among unstable angina group

Table (20)

Correlation between TG & Lp (a)

In the patients under the study

	Correlation Coefficient "r"	P value	Significance
Stable angina group	0.225	0.232	Non Significant
Unstable angina group	0.282	0.732	Non Significant

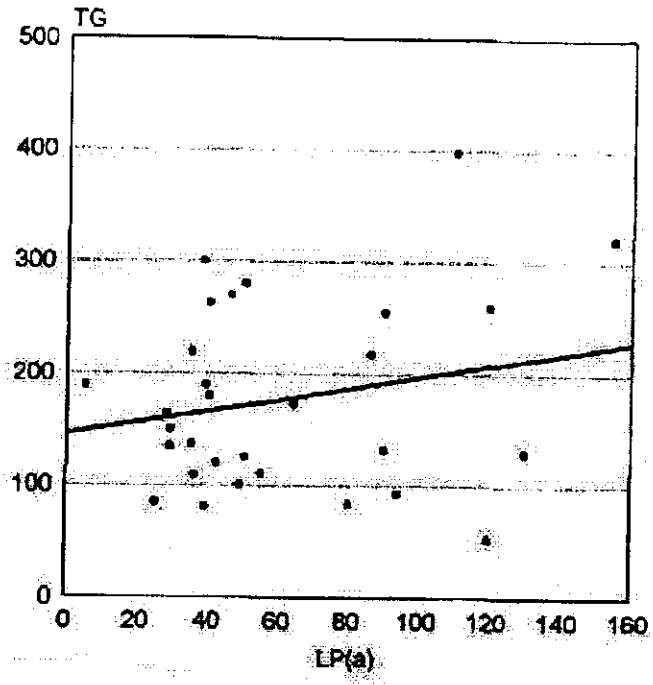

Figure (14) shows non-significant correlation between TG & Lp(a) among stable angina group

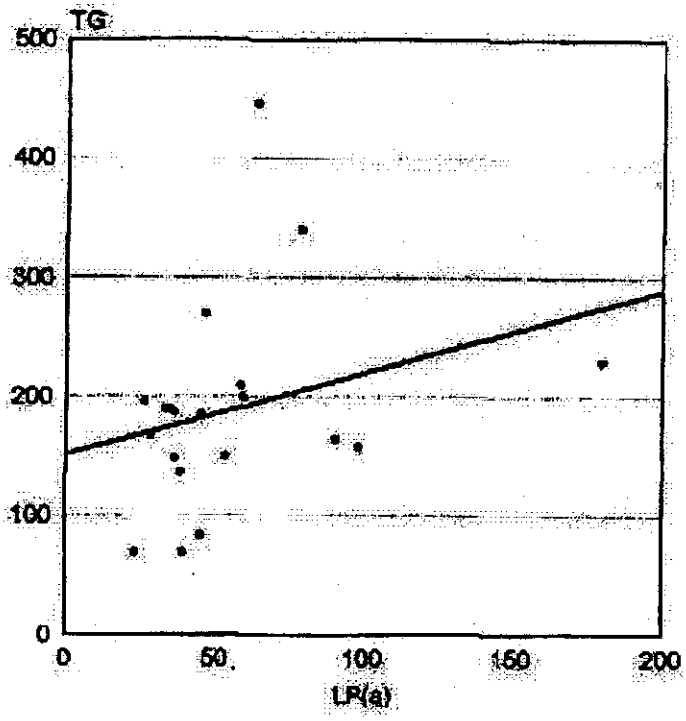

Figure (15) shows non-significant correlation between TG & Lp(a) among unstable angina group

*** The prevalence of coronary angiography scores among the patients under the study.**

- **Stable angina group:** it was 1 in 3 females (9.9%) and 1 males (3.3%), 2 in 4 females (13.2%) and 10 males (33.3%), 3 in 4 females (13%) and 8 males (26.4%).

- **Unstable angina group:** it was 0 in 1 male (5%), 1 in 1 female (5%) and 4 males (20%), 2 in 2 males (10%), 3 in 3 females (15%) and 9 males (45%).

These findings are showed in tables (21,22) and presented graphically in figures (16, 17).

Table (21)
Prevalence of Angio-score among stable Angina Group

Score	Sex		Total
	Male	Female	
1	1 (3%)	3 (10%)	5 (13%)
2	10 (33.3%)	4 (13.3%)	13 (46.6%)
3	8 (26.7%)	4 (13.3%)	12 (40%)
Total	19 (63%)	11 (37%)	30 (100%)

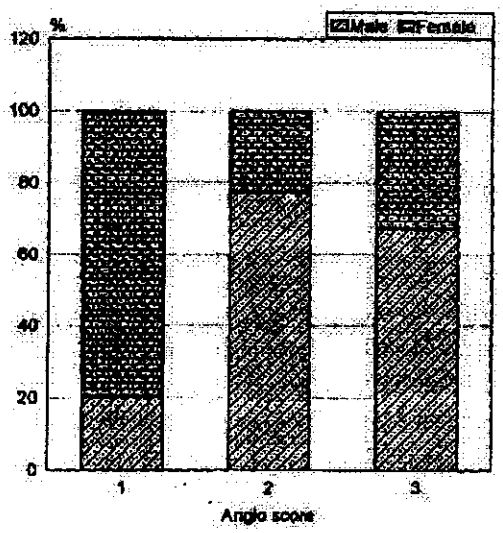

Figure (16) shows prevalence of Angio-score among stable Angina Group

Table (22)
Prevalence of Angio-score among unstable Angina Group

Score	Sex		Total
	Male	Female	
0	1 (5%)	-	1 (5%)
1	4 (20%)	1 (5%)	5 (25%)
2	2 (10%)	-	2 (10%)
3	9 (45%)	3 (15%)	12 (60%)
Total	16 (80%)	4 (20%)	20 (100%)

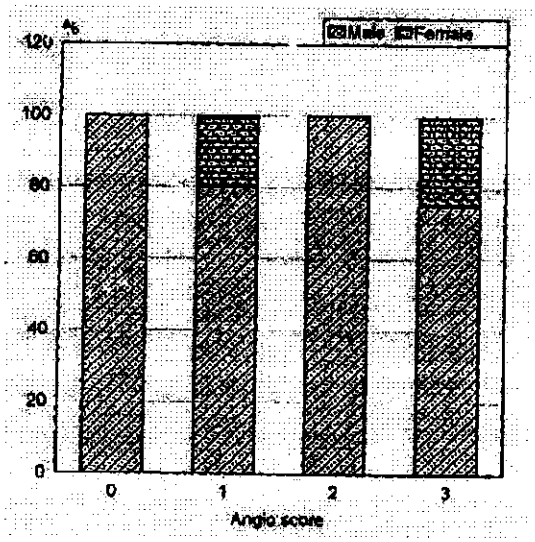

Figure (17) shows prevalence of Angio-score among unstable Angina Group

*** The correlation of LP(a) level and the angiographic score:**

- **Stable angina group:** there is significant correlation between LP(a) level and the angiographic score P value (< 0.05).

- **Unstable angina group:** there is highly significant correlation between LP(a) level and the angiographic score P value (< 0.001).

These findings are showed in table (23) and presented graphically in figures (18,19).

Table (23)

Correlation between Lp(a) & Angio score

In the patients under the study

	Correlation Coefficient "r"	P value	Significance
Stable angina group	0.45	0.045 (<0.05)	Significant
Unstable angina group	0.55	0.002 (<0.01)	Highly Significant

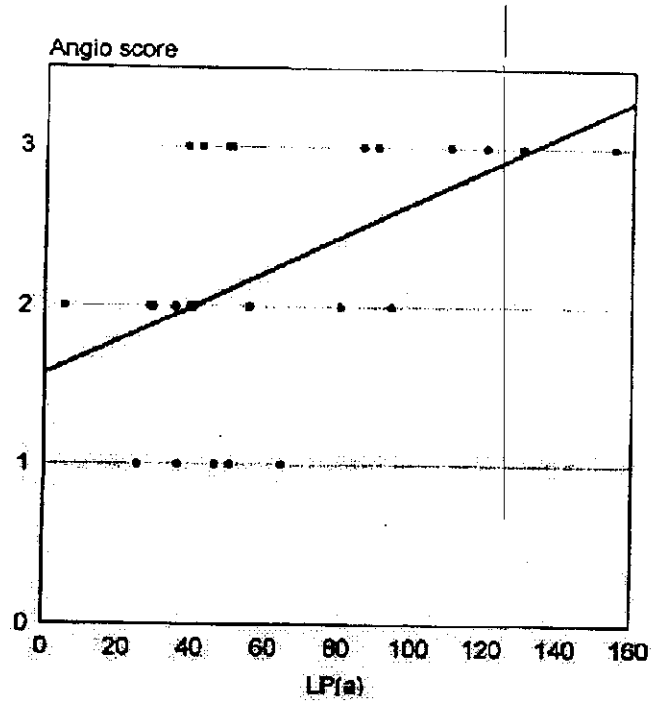

Figure (18) shows significant Correlation between Lp(a) & Angio score among stable angina group

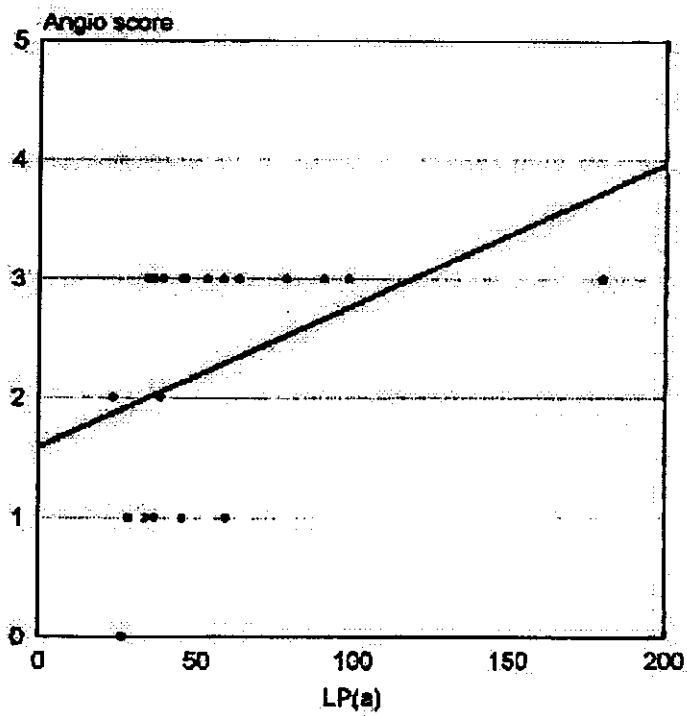

Figure (19) shows significant Correlation between Lp(a) & Angio score among unstable angina group

*** Prevalence of the type (complexity) of the lesion among the patients under the study.**

- **Stable angina group:** it was A in (19.98%) of the patients, B in (23.31%), A&B in (26.64%) of the patients, A&C in (3.33%), B&C in (16.65%) of the patients, A,B&C in (9.99%).

- **Unstable angina group:** it was A in (30%) of the patients, B in (20%), C in (15%), A&B in (5%) of the patients, A&C in (5%) , B&C (15%) of the patients, A,B&C in (5%).

These findings are showed in table (24).

Table (24)
Prevalence of type (complexity) of the lesion in the patients under the study

Group	Type of the lesion	LP(a)		Total
		Normal (<30mg/dl	High (>30mg/dl	
Stable angina group	A	2(6.66%)	4(13.2%)	6(19.98%)
	B	1(3.33%)	6(19.8%)	7(23.31%)
	A & B		8(26.64%)	8(26.64%)
	A & C		1(3.33%)	1(3.33%)
	B & C	1(3.33%)	4(13.32%)	5(16.65%)
	A , B & C	1(3.33%)	2(6.66%)	3(9.99%)
	Total	5(16.65%)	25(83.35%)	30(100%)
Unstable angina group	0	1(5%)		1(5%)
	A	1(5%)	5(25%)	6(30%)
	B		4(20%)	4(20%)
	C		3(15%)	3(15%)
	A & B		1(5%)	1(5%)
	A & C		3(15%)	1(5%)
	B & C			3(15%)
	A, B & C	1(5%)		1(5%)
	Total	3(15%)	17(85%)	20(100%)

Figure No. (20)
LAO view with caudal angulation (spider view) showing totally occluded (stumped) after D1 with fair antegrade flew & diffusely diseased CX. (Case No. 5)

Figure No. (21)
LAO view showing mid critical RCA lesion 95% then another concentrate lesion about 80%.
(Case No. 19)

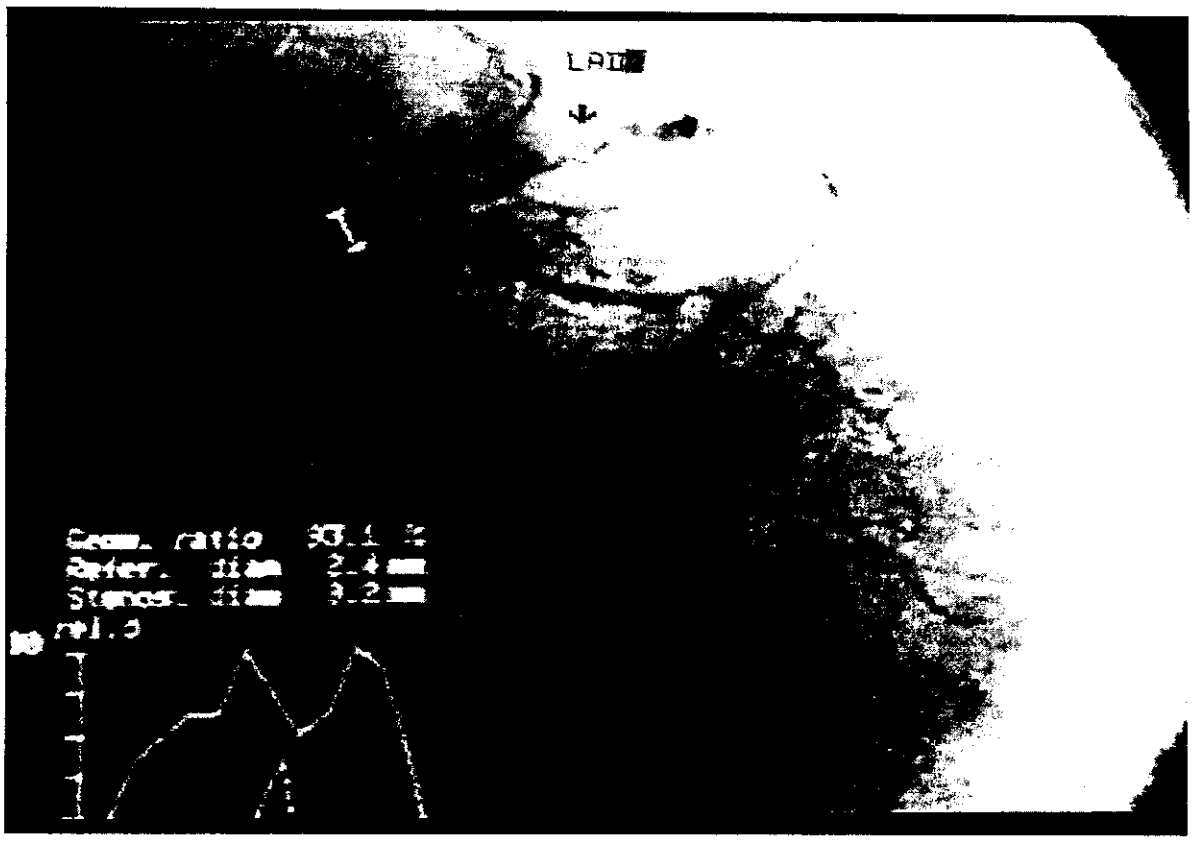

Figure No. (22)
RAO view showing totally occluded LAD after D1 with faint antegrade flow.
(Case No. 35)

Figure No. (23)
RAO view Cranial angulation showing small caliber LAD (as regard to CX). CX is the dominant system with 2 OM branches.
(Case No. 50)