# RESULTS

The results of the present study are statistically analyzed, summarized and presented in tables (4-10) and figures (12-42).

| | CAD group (n = 30) | MI group (n = 10) | Control group (n = 20) | Test of significance | P value | |
|---|---|---|---|---|---|---|
| **Age(Yr)** | 55.27 ± 6.84 | 57.8 ± 12.32 | 38.80 ± 7.45 | F = 29.785 | < 0.001* | P1=0.398<br>P2<0.001<br>P3<0.001 |
| **FBS(mg/dl)** | 120.03 ± 37.70 | 127.60 ± 56.57 | 102.05 ± 10.73 | F = 2.248 | 0.115 | P1=0.563<br>P2=0.085<br>P3=0.069 |
| **PBS(mg/dl)** | 207.87 ± 60.24 | 228.20 ± 98.48 | 135.60 ± 13.81 | F = 12.042 | < 0.001* | P1=0.346<br>P2<0.001<br>P3<0.001 |
| **LDL(mg/dl)** | 141.90 ± 40.07 | 143.10 ± 38.71 | 108.20 ± 22.79 | F = 6.286 | 0.003* | P1=0.926<br>P2=0.002<br>P3=0.013 |
| **HDL(mg/dl)** | 38.37 ± 6.51 | 40.30 ± 4.95 | 56.70 ± 10.91 | F = 32.857 | < 0.001* | P1=0.514<br>P2<0.001<br>P3<0.001 |
| **MCP1(pg/ml)** | 218.46 ± 91.12 | 325.82 ± 128.79 | 152.36 ± 96.96 | F = 10.104 | < 0.001* | P1=0.005<br>P2=0.026<br>P3<0.001 |
| **Sex:**<br>**Male**<br>**Female** | <br>18 (60%)<br>12 (40%) | <br>6 (60%)<br>4 (40%) | <br>10 (50%)<br>10 (50%) | $\chi^2$=0.543 | 0.762 | |
| **DM** | 14 (46.7%) | 5 (50%) | 0 (0%) | $\chi^2$=13.941 | 0.001* | |
| **HTN** | 13 (43.3%) | 3 (30%) | 0 (0%) | $\chi^2$=11.591 | 0.003* | |
| **Hyper-cholesterolemia** | 23 (76.7%) | 8 (80%) | 0 (0%) | $\chi^2$=32.102 | < 0.001* | |
| **Smoking** | 16 (53.3%) | 6 (60%) | 0 (0%) | $\chi^2$=17.512 | < 0.001* | |

P1= CAD group vs MI group P2= CAD group vs control group

P3= MI group vs control group

***Table (4) showing comparative study in all parameters among patients in the study, it shows a significant difference between all the 3 comparative groups as regards age, post prandial blood sugar (PBS), low density lipoprotein (LDL), high density lipoprotein (HDL), monocyte chemotactic protein 1 (MCP1) and incidence of diabetes (DM), hypertension (HTN), hypercholesterolemia and smoking.***

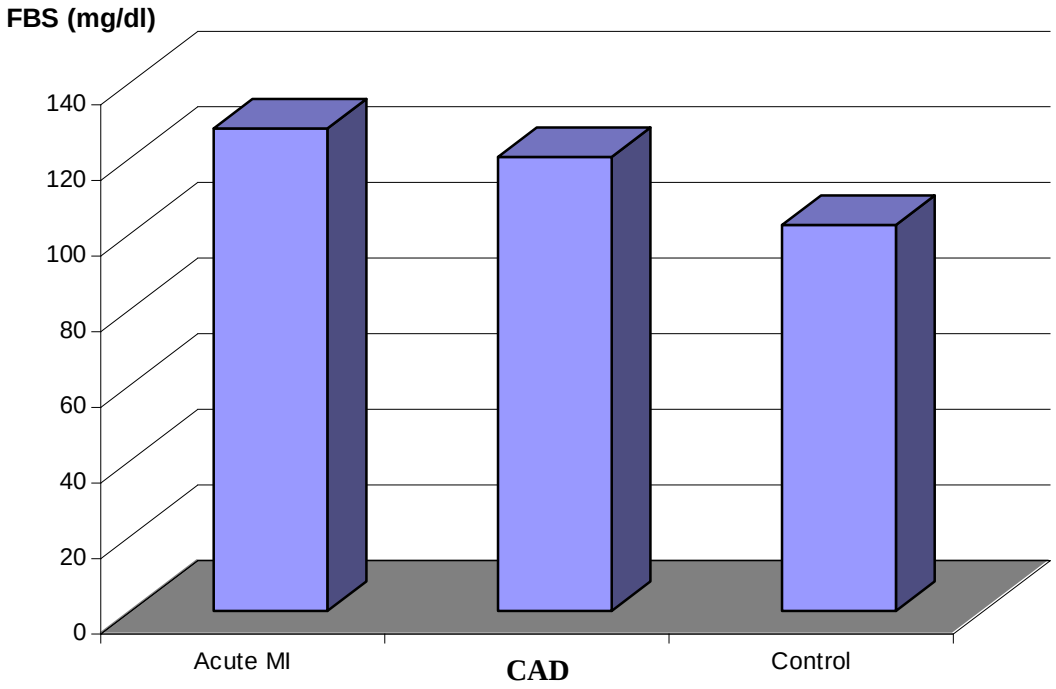


*Figure (12) showing comparison between all groups in the study as regards fasting blood sugar (FBS), it shows a non significant difference between the 3 groups as regards fasting blood sugar (FBS).*

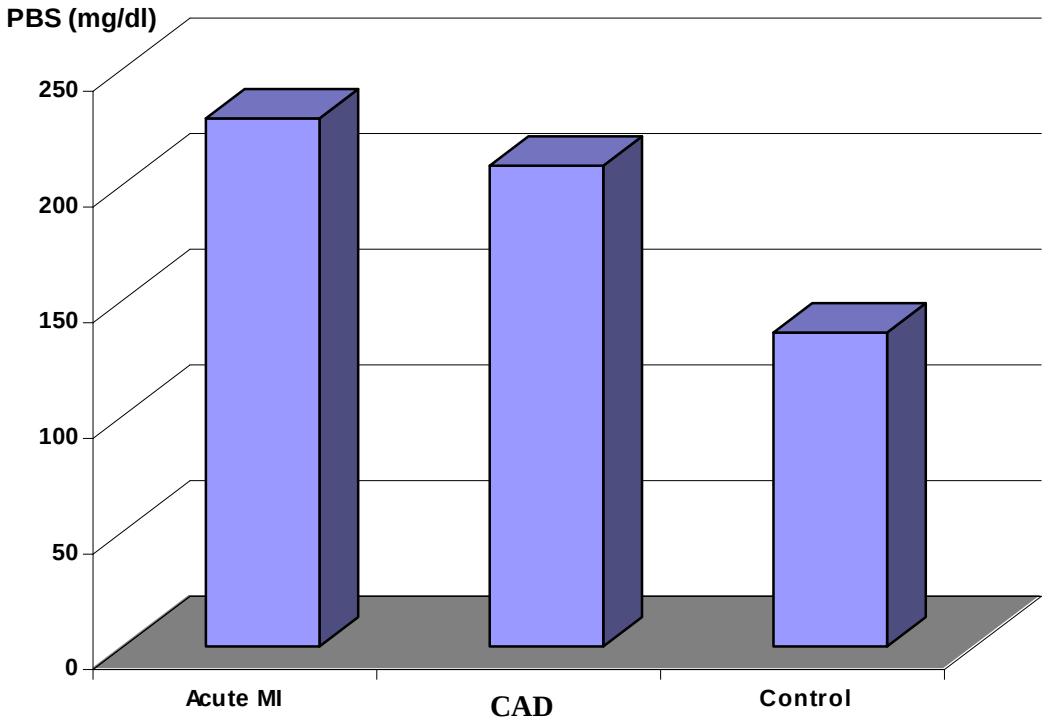


*Figure (13) showing comparison between all groups in the study as regards postprandial blood sugar (PBS), it shows a significant difference between the 3 groups as regards postprandial blood sugar (PBS).*

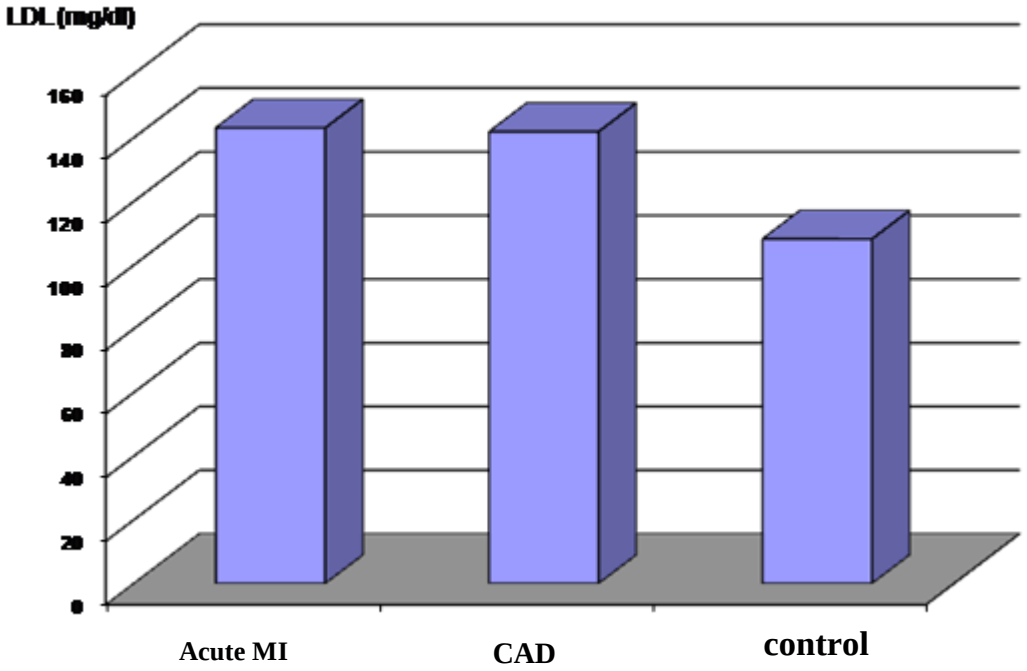


*Figure (14) showing comparison between all groups in the study as regards serum low density lipoprotein (LDL), it shows a significant difference between the 3 groups as regards serum low density lipoprotein (LDL).*

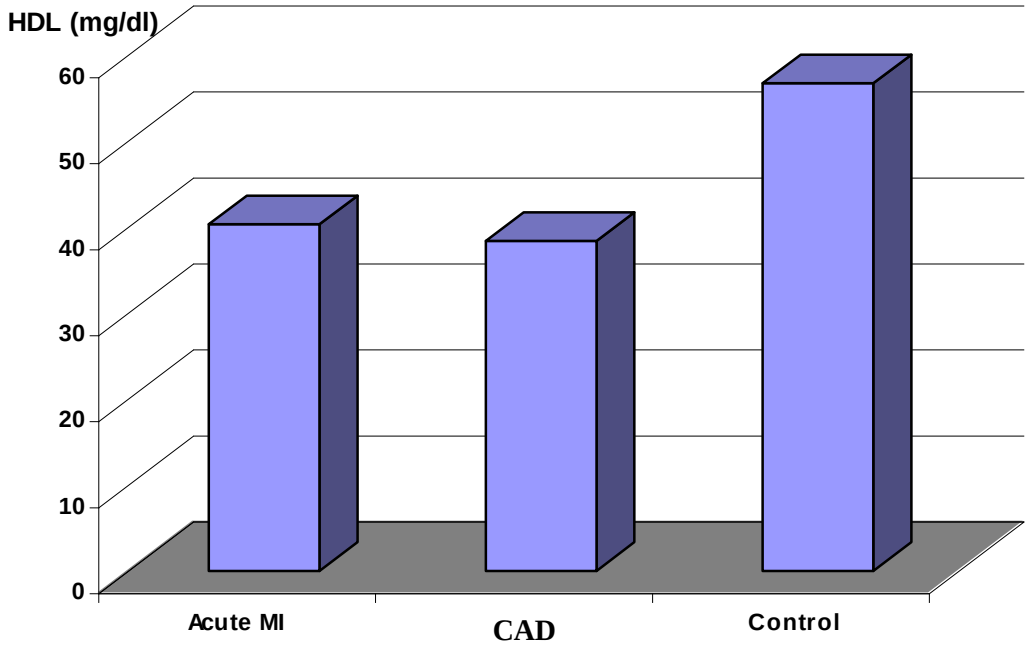


*Figure (15) showing comparison between all groups in the study as regards serum high density lipoprotein (HDL), it shows a significant difference between the 3 groups as regards serum high density lipoprotein (HDL).*

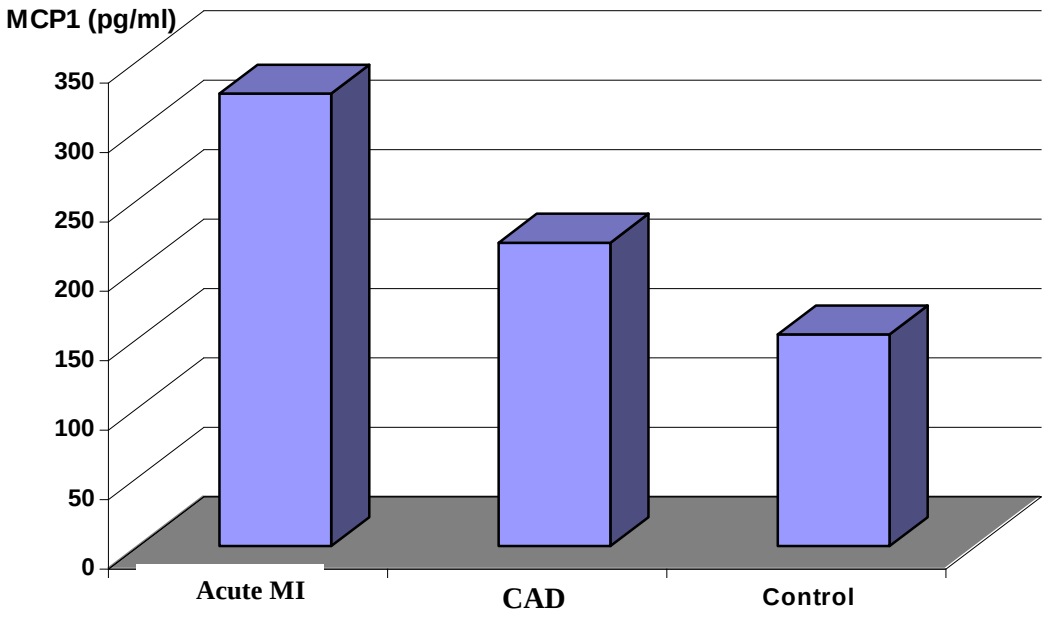


*Figure (16) showing comparison between all groups in the study as regards serum monocyte chemotactic protein 1 (MCP1), it shows a significant difference between the 3 groups as regards serum chemotactant protein 1 (MCP1).*

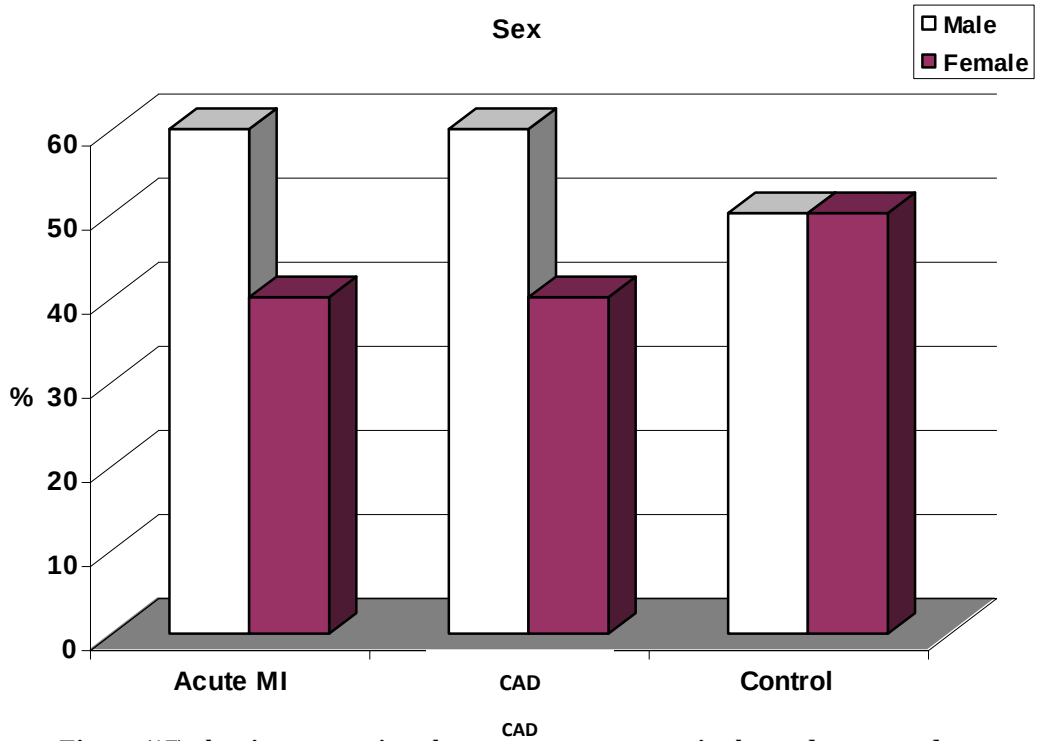


*Figure (17) showing comparison between patient groups in the study as regards sex distribution, it shows a non significant difference between the 3 groups as regards sex distribution.*

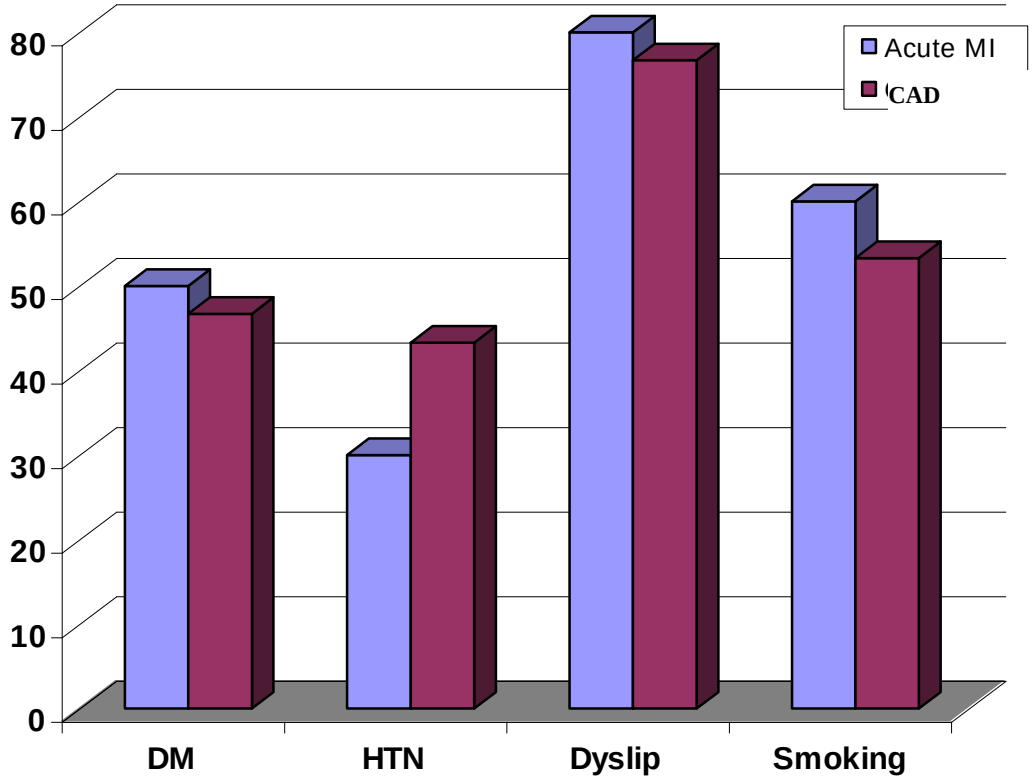


***Figure (18) showing comparison between all groups in the study, it shows a significant difference between the 3 groups as regards DM, HTN, hypercholesterolemia and smoking.***

From the data shown in table (4) and figures (from 12 to 18) we found that there was a significant difference between the 3 comparative groups in the study as regards age, post prandial blood sugar (PBS), low density lipoprotein (LDL), high density lipoprotein (HDL), monocyte chemotactic protein 1 (MCP1) and incidence of diabetes (DM), hypertension (HTN), hypercholesterolemia and smoking and there was a non significant difference between the 3 comparative groups in the study as regards fasting blood sugar (FBS) and sex distribution.

Also from the data showing in (table 4) and (fig. 16) we found a significance elevation of MCP1 in MI group as compared with CAD group (325.82 ± 128.79 versus 218.46 ± 91.12 pg/ml; P =0.005).

## Correlation between MCP1 and other parameters in control group.

| | MCP1 (pg/ml) | |
|---|---|---|
| | R | P |
| **Age(Yr)** | 0.335 | 0.149 |
| **FBS(mg/dl)** | 0.144 | 0.545 |
| **PBS(mg/dl)** | 0.347 | 0.134 |
| **LDL(mg/dl)** | 0.212 | 0.369 |
| **HDL(mg/dl)** | - 0.394 | 0.085 |

***Table (5) showing Correlation between MCP1 and other parameters in control group, it shows a non significant Correlation between MCP1 and age, low density lipoprotein (LDL), high density lipoprotein (HDL) , fasting blood sugar (FBS) and post prandial blood sugar (PBS).***

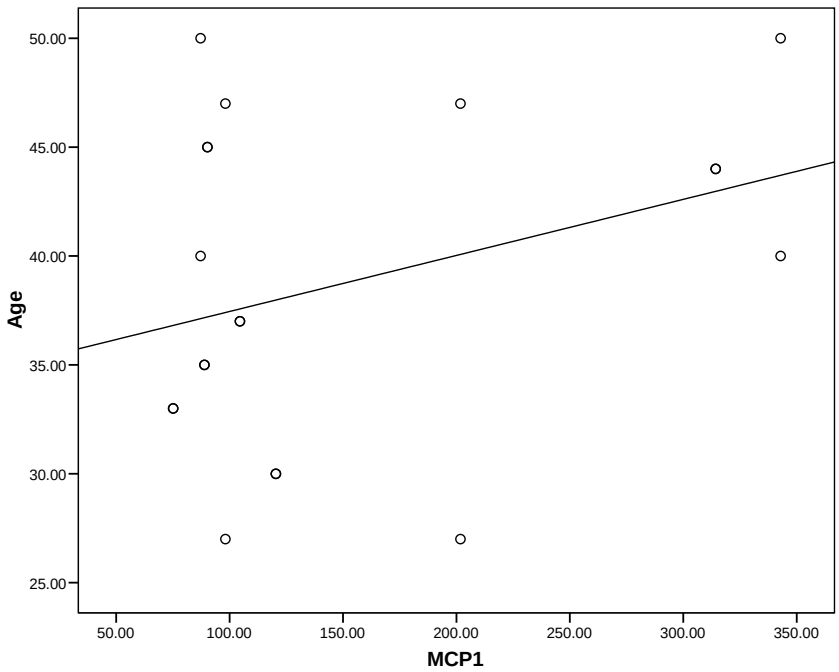


***Figure (19) showing Correlation between MCP1 and age in control group, it shows a non significant Correlation between MCP1 and age.***

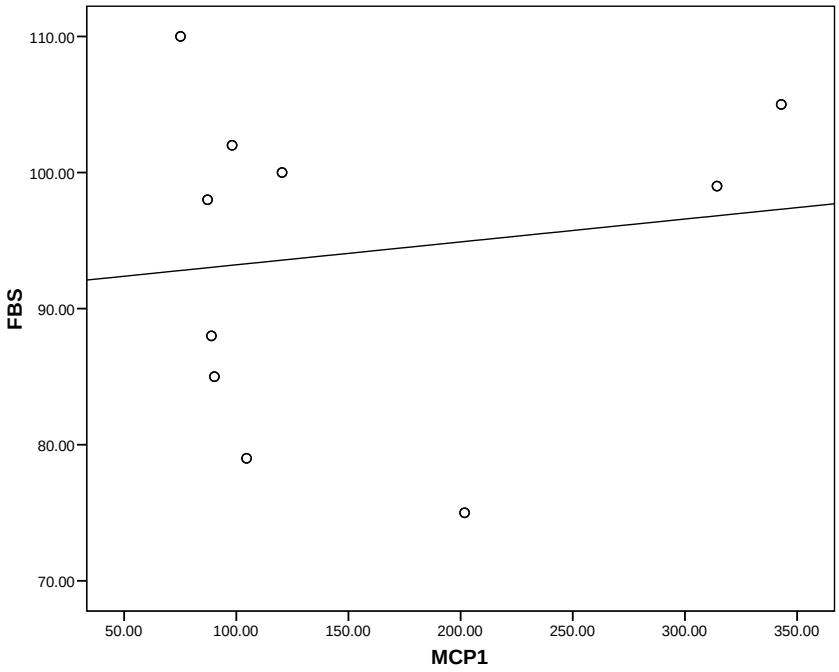


***Figure (20) showing Correlation between MCP1 and FBS in control group, it shows a non significant Correlation between MCP1 and fasting blood sugar (FBS).***

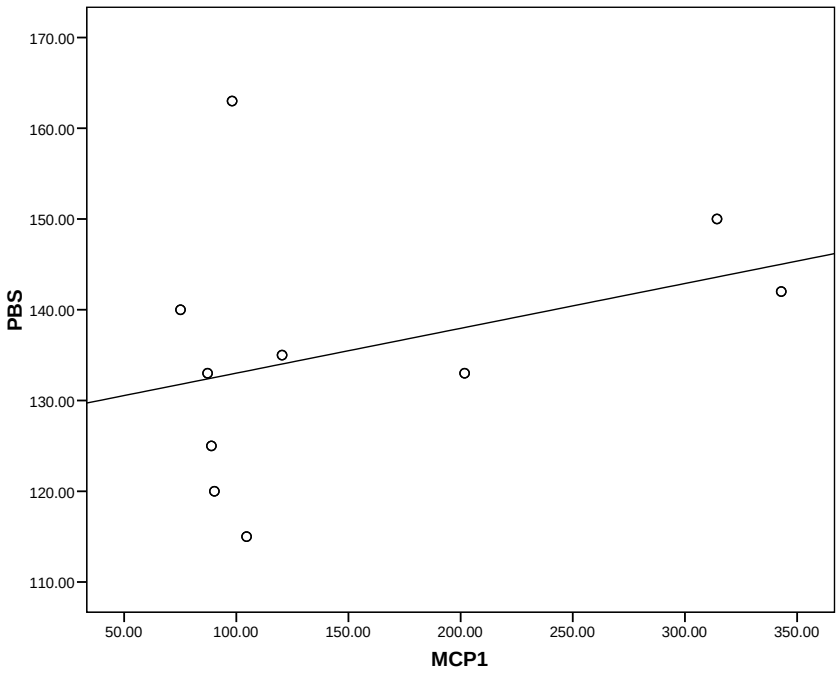


***Figure (21) showing Correlation between MCP1 and PBS in control group, it shows a non significant Correlation between MCP1 and post prandial blood sugar (PBS).***

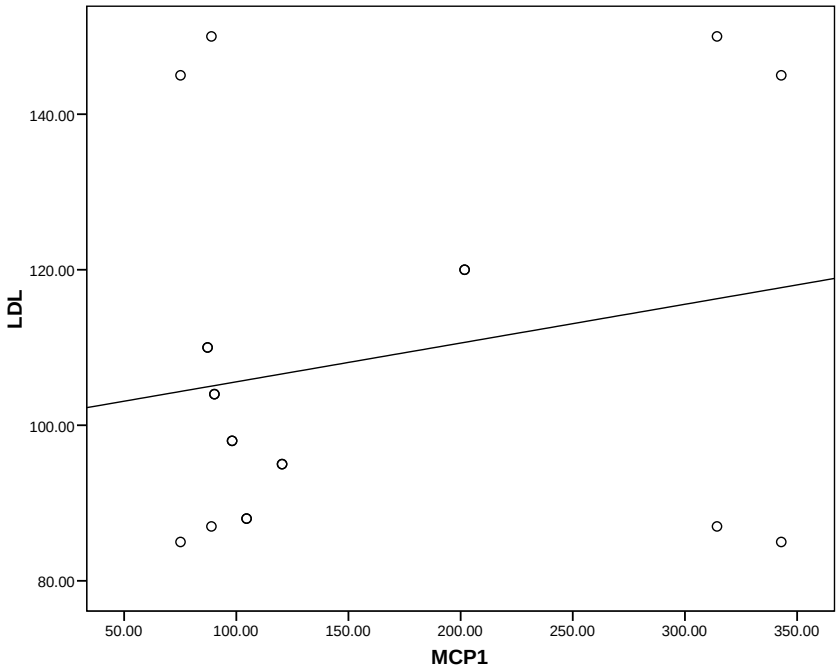


***Figure (22) showing Correlation between MCP1 and LDL in control group, it shows a non significant Correlation between MCP1 and low density lipoprotein (LDL).***

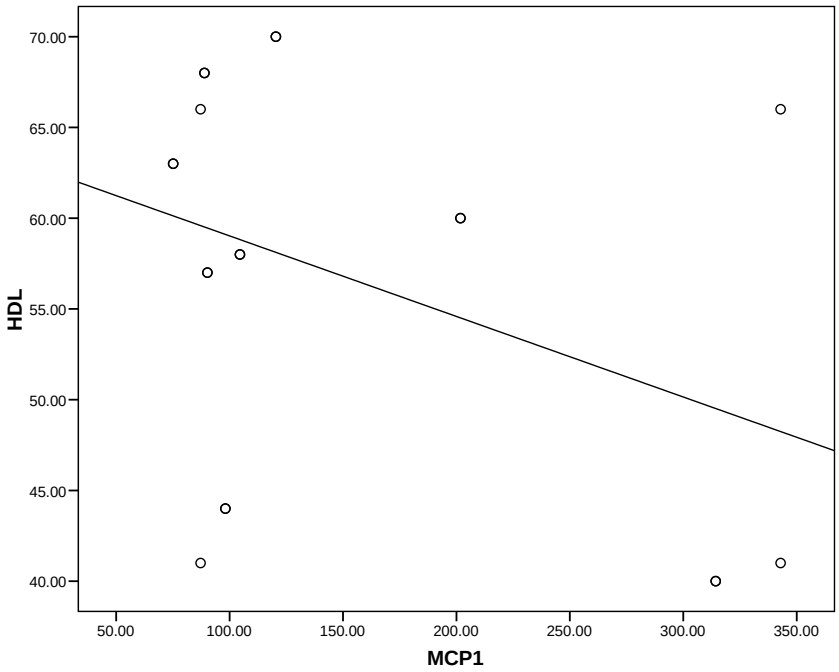


***Figure (23) showing Correlation between MCP1 and HDL in control group, it shows a non significant Correlation between MCP1 and high density lipoprotein (HDL).***

From the data shown in table (5) and figures (from 19 to 23) we found that there was a non significant correlation between MCP1 and age, low density lipoprotein (LDL), high density lipoprotein (HDL), fasting blood sugar (FBS) and post prandial blood sugar (PBS) among patients in the control group.

## *Correlation between MCP1 and sex in control group*

| | ***MCP1*** | **P value** |
|---|---|---|
| Male (10) | 87.92 ± 7.82 | 0.057 |
| Female (10) | 216.79 ± 108.76 | |

***Table (6) showing Comparitive between MCP1 and sex in control group, it shows a non significant Correlation between MCP1 and sex distribution in the control group.***

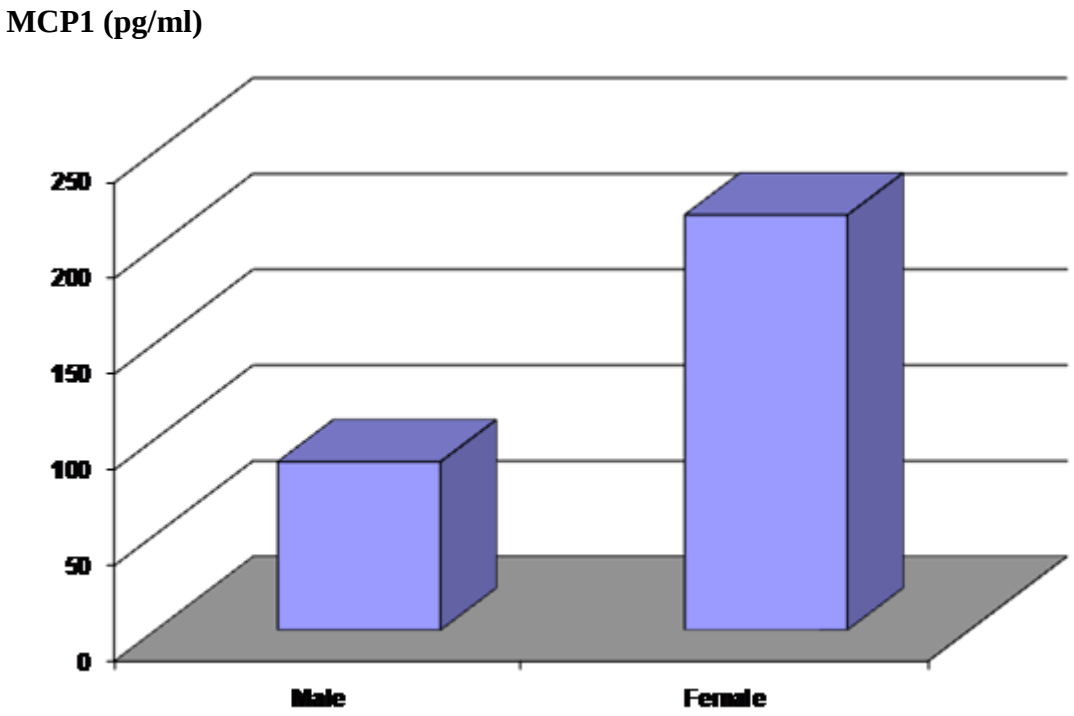


***Figure (24) showing Comparitive between MCP1 and sex distribution in control group, it shows a non significant Correlation between MCP1 and sex distribution in the control group.***

From the data shown in table (**6**) and figures (**24**) we found that there was a non significant Correlation between MCP1 and sex distribution in the control group among patients in the control group.

## *Correlation between MCP1 and other parameters in acute MI group*

| | ***MCP1 (pg/ml)*** | |
|---|---|---|
| | R | P |
| **Age(Yr)** | 0.722 | 0.018* |
| **FBS(mg/dl)** | 0.136 | 0.707 |
| **PBS(mg/dl)** | 0.390 | 0.265 |
| **LDL(mg/dl)** | 0.716 | 0.020* |
| **HDL(mg/dl)** | - 0.690 | 0.027* |

***Table (7) showing Correlation between MCP1 and other parameters in acute MI group, it shows a significant positive Correlation between MCP1 and age, low density lipoprotein (LDL)and a significant negative correlation between MCP1 and high density lipoprotein (HDL) and non significant correlation between MCP1 and fasting blood sugar (FBS) and post prandial blood sugar (PBS).***

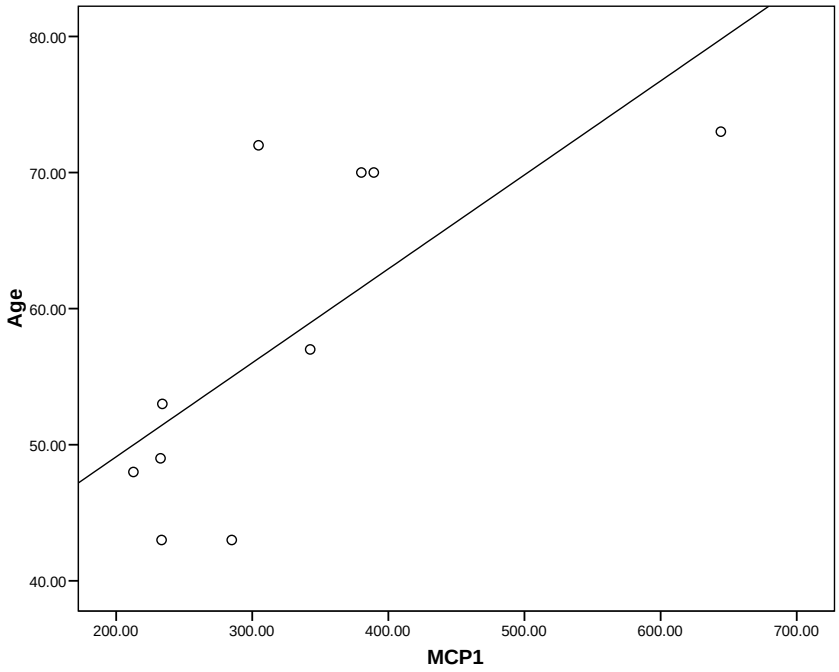


***Figure (25) showing correlation between MCP1 and age in acute MI group, it shows a significant positive Correlation between MCP1 and age.***

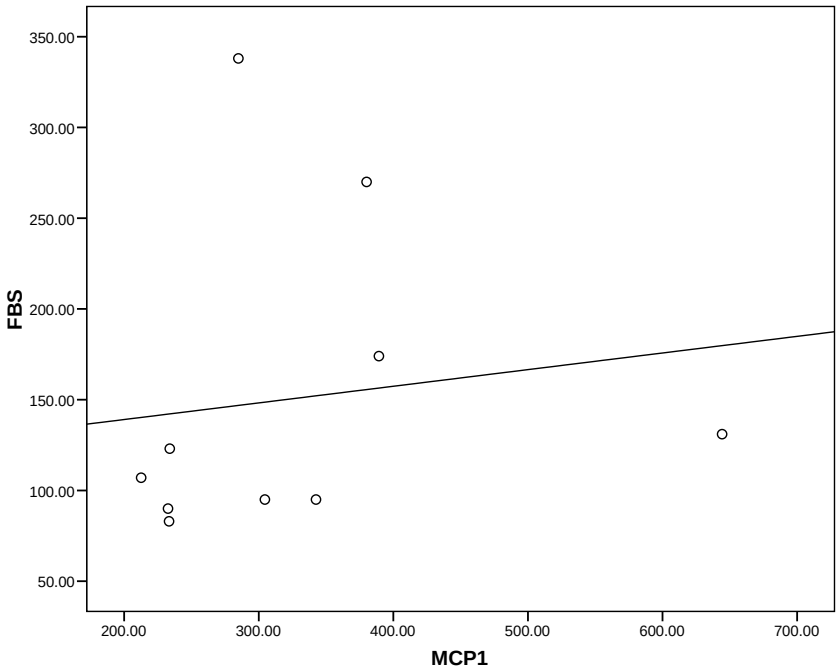


***Figure (26) showing Correlation between MCP1 and FBS in acute MI group, it shows a non significant Correlation between MCP1 and fasting blood sugar (FBS).***

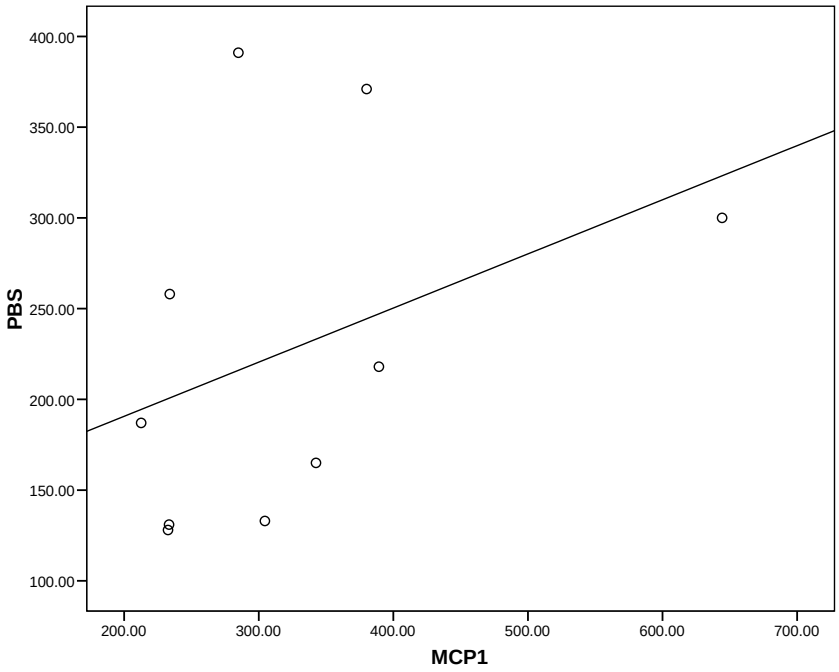


***Figure (27) showing Correlation between MCP1 and PBS in acute MI group, it shows a non significant Correlation between MCP1 and post prandial blood sugar (PBS).***

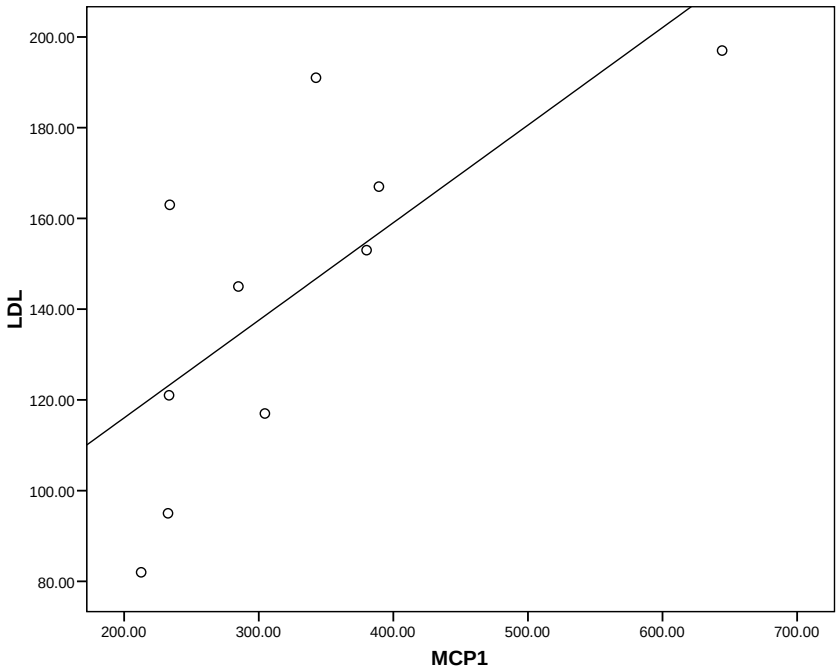


***Figure (28) showing Correlation between MCP1 and LDL in acute MI group, it shows a significant positive Correlation between MCP1 and low density lipoprotein (LDL).***

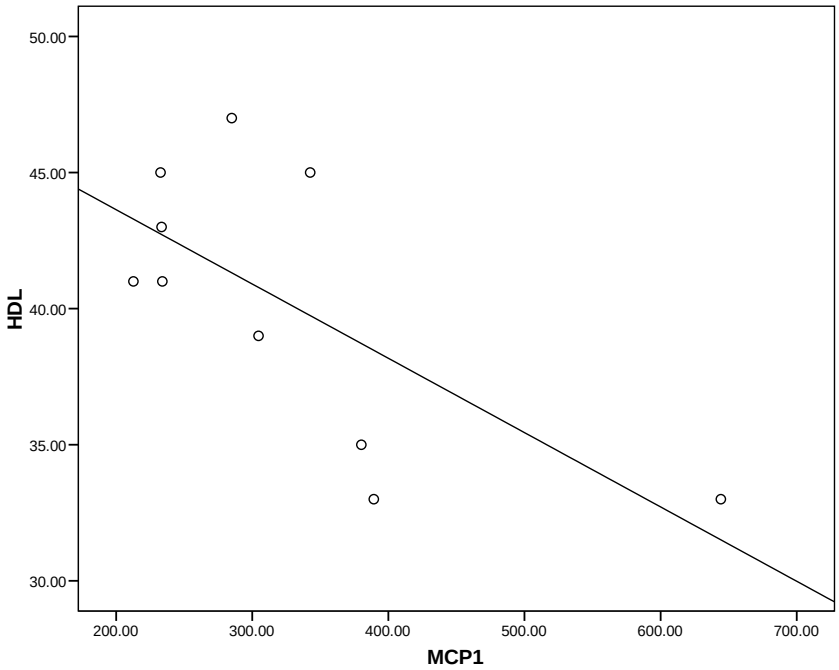


***Figure (29) showing Correlation between MCP1 and HDL in acute MI group, it shows a significant negative Correlation between MCP1 and high density lipoprotein (HDL).***

From the data shown in table (7) and figures (from 25 to 29) we found that there was a significant positive correlation between MCP1 and age(r= 0.722 &P= 0.018) and low density lipoprotein (LDL)(r= 0.716 &p= 0.020). There was a significant negative correlation between MCP1 and high density lipoprotein (HDL)(r= -0.690 & P=0.027). There was a non significant correlation between MCP1 and fasting blood sugar (FBS) and post prandial blood sugar (PBS) among patients of acute MI group

## Correlation between MCP1 and other parameters in acute MI group

| | MCP1 | P value |
|---|---|---|
| **Male (6)**<br>**Female (4)** | 282.55 ± 70.41<br>390.72 ± 179.27 | 0.210 |
| **DM negative (5)**<br>**DM positive (5)** | 265.14 ± 55.60<br>386.49 ± 158.20 | 0.144 |
| **HTN negative (7)**<br>**HTN positive (3)** | 277.10 ± 65.27<br>439.48 ± 184.88 | 0.265 |
| **Negative smoker (4)**<br>**Positive smoker (6)** | 397.18 ± 180.88<br>278.24 ± 58.62 | 0.163 |

***Table (8) showing Comparitive between MCP1 and other parameters in acute MI group, it shows a non significant Correlation between MCP1 and DM, HTN, gender and smoking.***

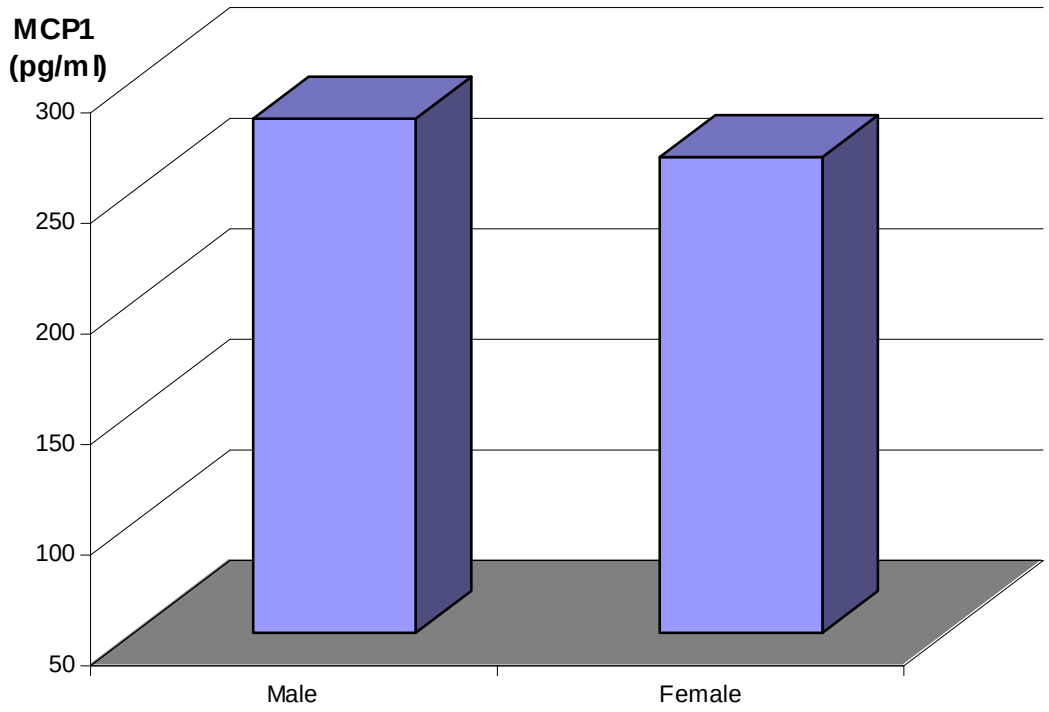


***Figure (30) showing Comparitive between MCP1 and gender in acute MI group, it shows a non significant Correlation between MCP1 and gender.***

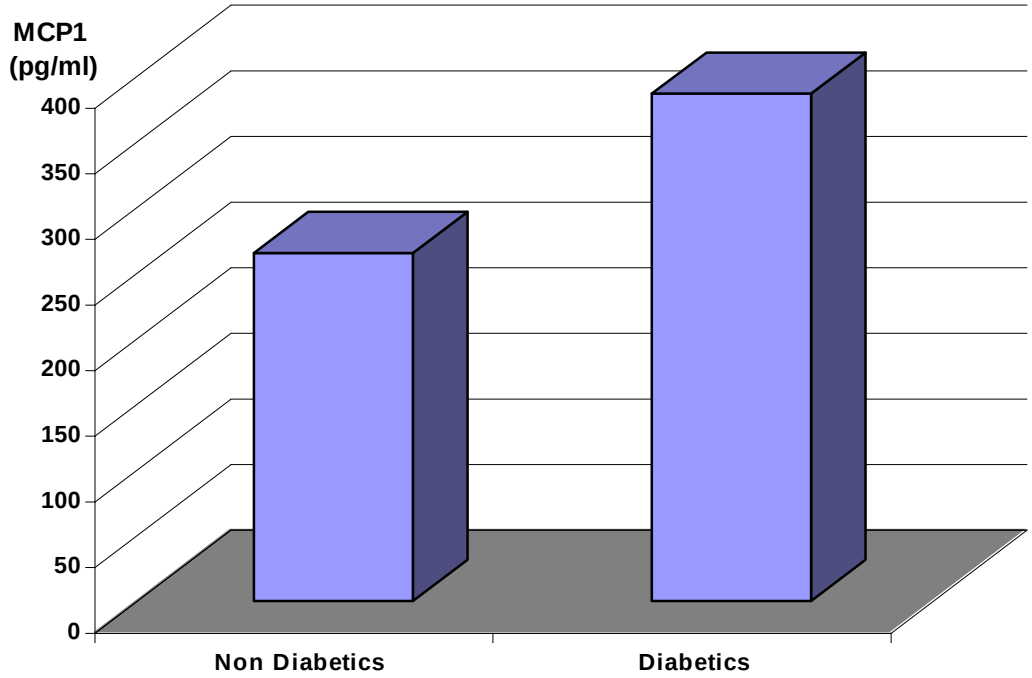


*Figure (31) showing Comparitive between MCP1 and DM in acute MI group, it shows a non significant Correlation between MCP1 and DM.*

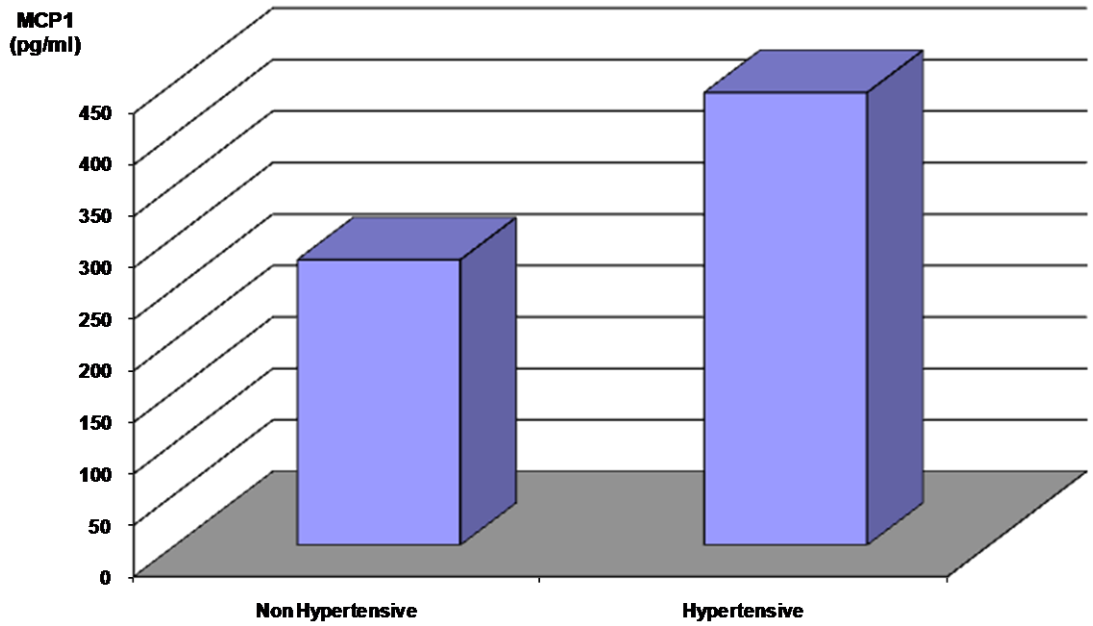


*Figure (32) showing Comparitive between MCP1 and HTN in acute MI group, it shows a non significant Correlation between MCP1 and HTN.*

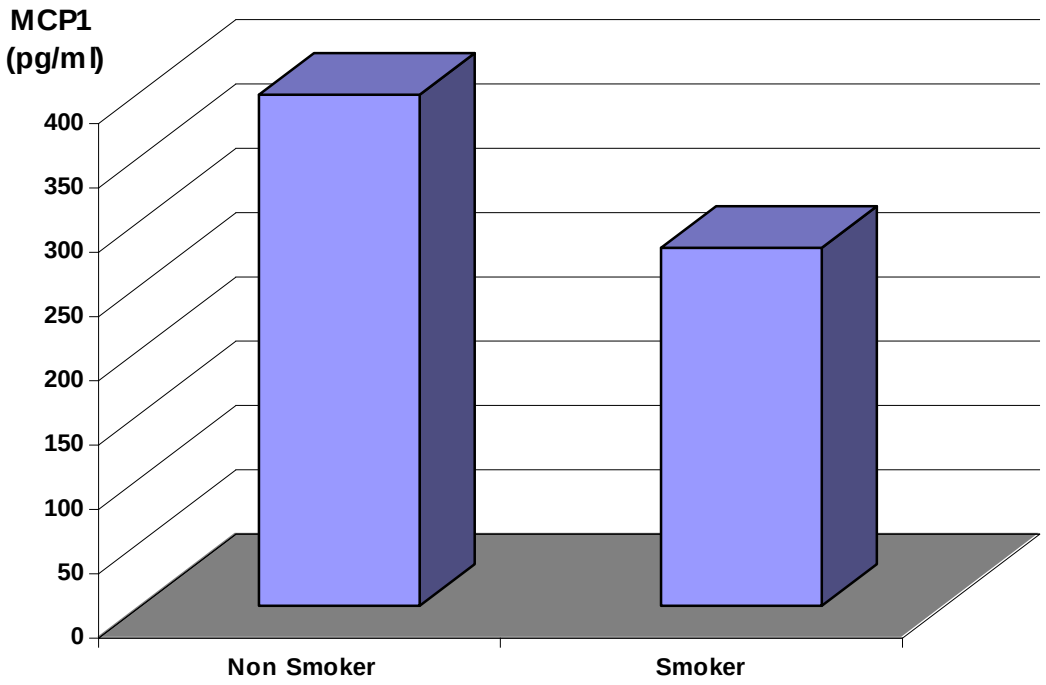


***Figure (33) showing Comparitive between MCP1 and smoking in acute MI group, it shows a non significant Correlation between MCP1 and smoking.***

From the data shown in table (8) and figures (from 30 to 33) we found that there was a non significant Correlation between MCP1 and DM, HTN, gender and smoking among patients of acute MI group.

## Correlation between MCP1 and other parameters in CAD group

| | MCP1 (pg/ml) | |
|---|---|---|
| | R | P |
| **Age(Yr)** | 0.672 | < 0.001* |
| **FBS(mg/dl)** | - 0.107 | 0.653 |
| **PBS(mg/dl)** | - 0.088 | 0.711 |
| **LDL(mg/dl)** | 0.720 | < 0.001* |
| **HDL(mg/dl)** | - 0.599 | < 0.001* |

***Table (9) showing Correlation between MCP1 and other parameters in CAD group, it shows a significant positive Correlation between MCP1 and age, low density lipoprotein (LDL) and a significant negative Correlation between MCP1 and high density lipoprotein (HDL) and a non significant correlation between mcp1 and fasting blood sugar (FBS) and post prandial blood sugar (PBS).***

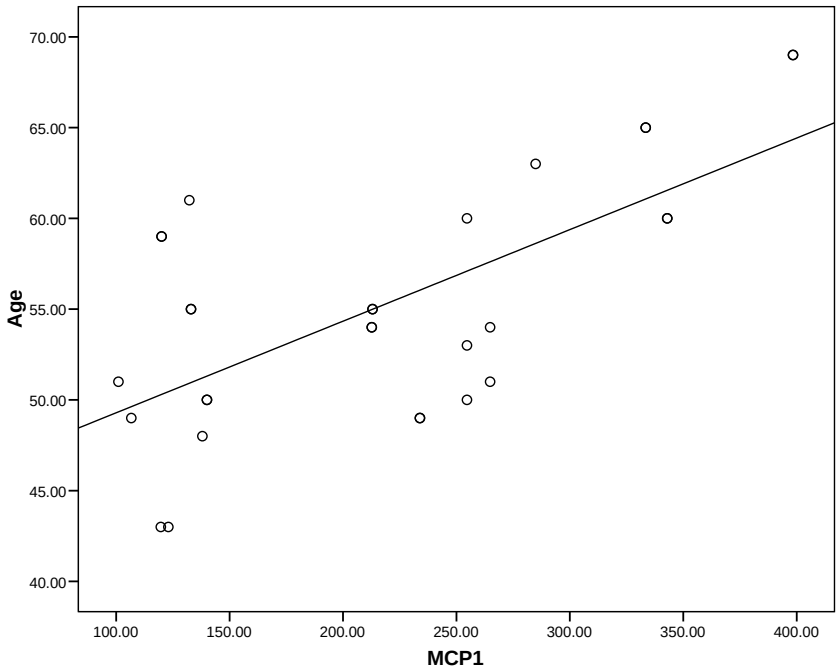


***Figure (34) showing Correlation between MCP1 and age in CAD group, it shows a significant positive Correlation between MCP1 and age.***

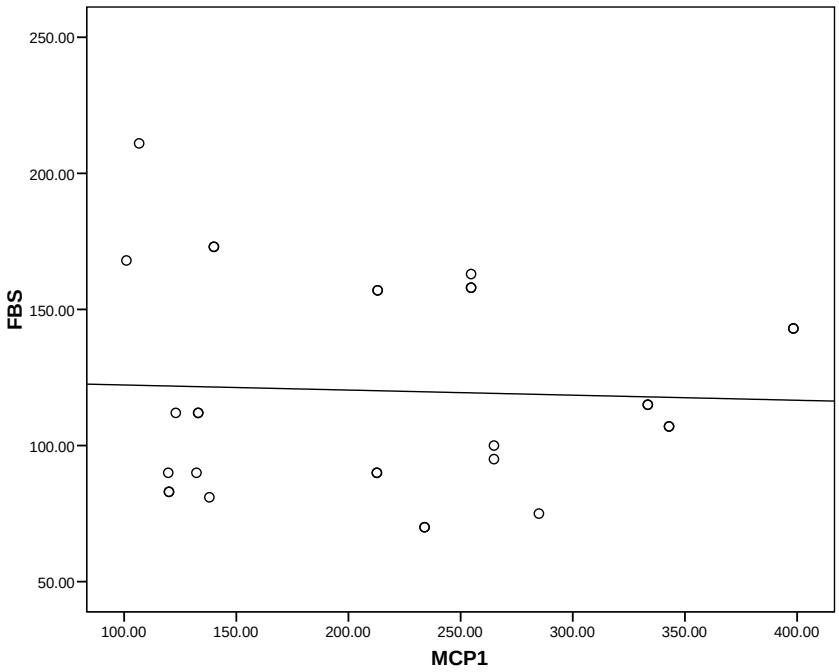


***Figure (35) showing Correlation between MCP1 and FBS in CAD group, it shows a non significant Correlation between MCP1 and fasting blood sugar (FBS).***

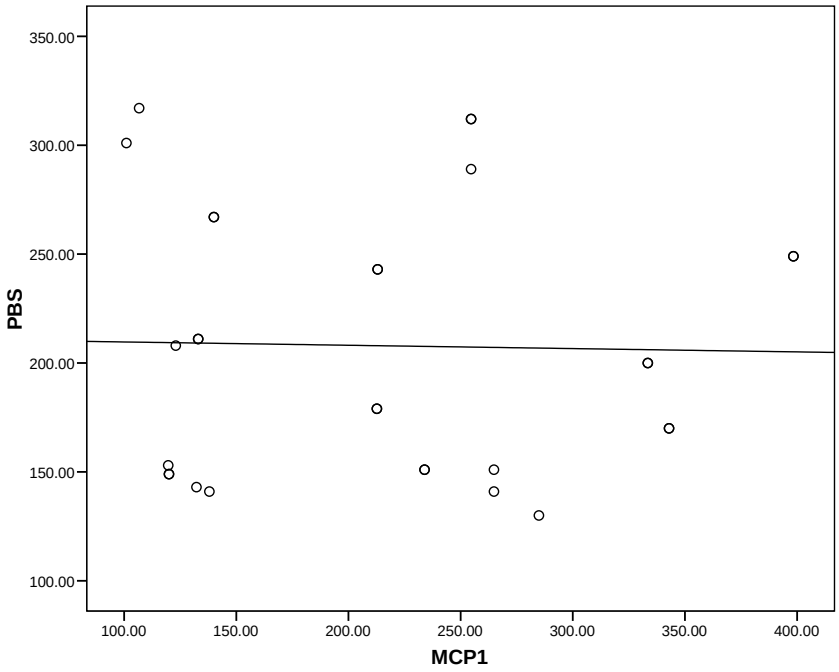


***Figure (36) showing Correlation between MCP1 and PBS in CAD group, it shows a non significant Correlation between MCP1 and post prandial blood sugar (PBS).***

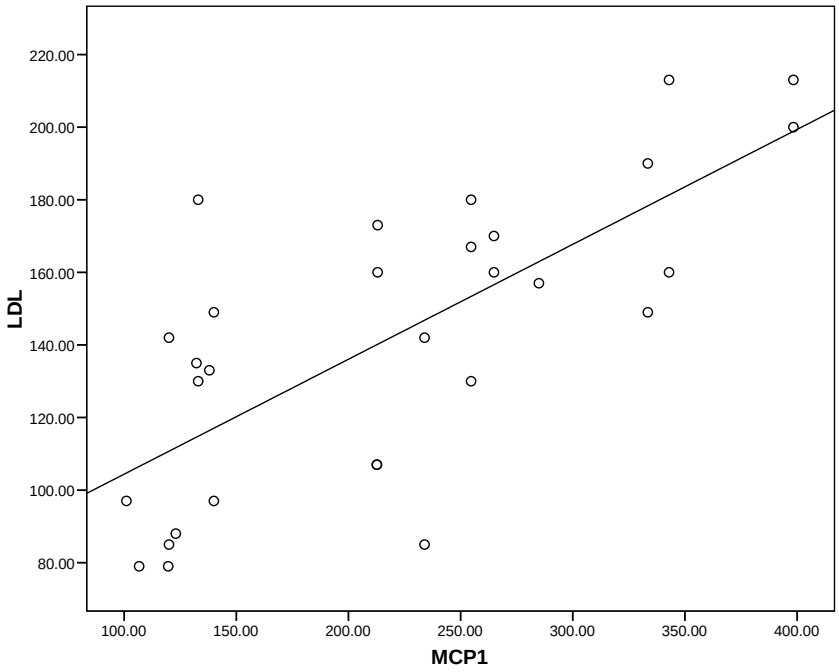


***Figure (37) showing Correlation between MCP1 and LDL in CAD group, it shows a significant positive Correlation between MCP1 and low density lipoprotein (LDL).***

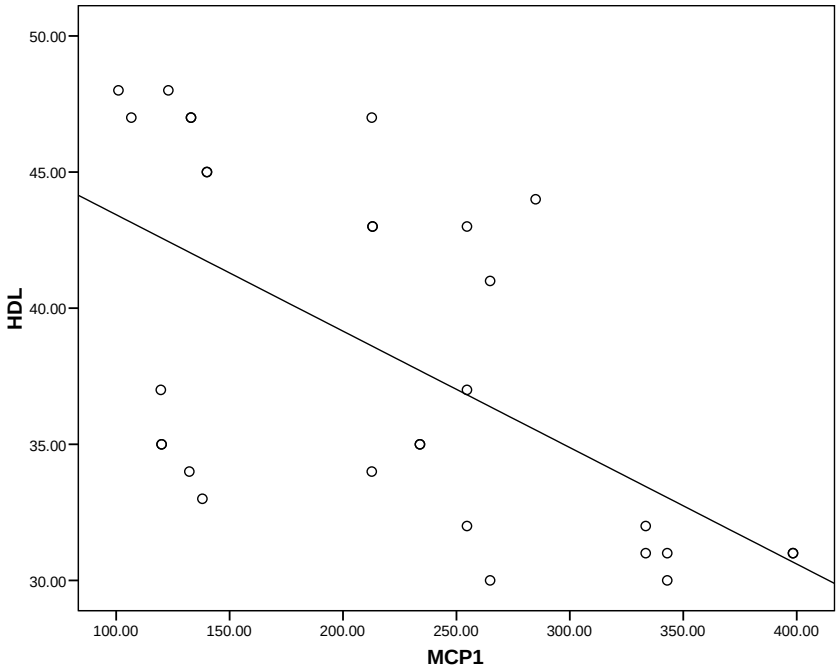


***Figure (38) showing Correlation between MCP1 and HDL in CAD group, it shows a significant negative Correlation between MCP1 and high density lipoprotein (HDL).***

From the data shown in table (9) and figures (from 34 to 38) we found that there was a significant positive Correlation between MCP1 and age(r= 0.672 & P= < 0.001), low density lipoprotein (LDL)(r=0.720 &P= <0.001). There was a significant negative correlation between MCP1 and high density lipoprotein (HDL)(r= -0.599 & P= <0.001). There was a non significant correlation between MCP1 and fasting blood sugar (FBS) and post prandial blood sugar (PBS) among patients of CAD.

## *Correlation between MCP1 and other parameters in CAD group*

| | ***MCP1*** | **P value** |
|---|---|---|
| **Male (18)**<br>**Female (12)** | 238.26 ± 103.16<br>188.76 ± 61.98 | 0.112 |
| **Diabetics (14)**<br>**Non Diabetics (16)** | 215.91 ± 94.63<br>220.69 ± 91.00 | 0.889 |
| **Hypertensive (13)**<br>**Non hypertensive (17)** | 249.45 ± 85.37<br>194.76 ± 90.59 | 0.104 |
| **Smoker (16)**<br>**Non smoker (14)** | 195.11 ± 91.61<br>245.15 ± 86.03 | 0.136 |

***Table (10) showing Comparitive between MCP1 and other parameters in CAD group, it shows a non significant Correlation e between MCP1 and DM, HTN, gender and smoking.***

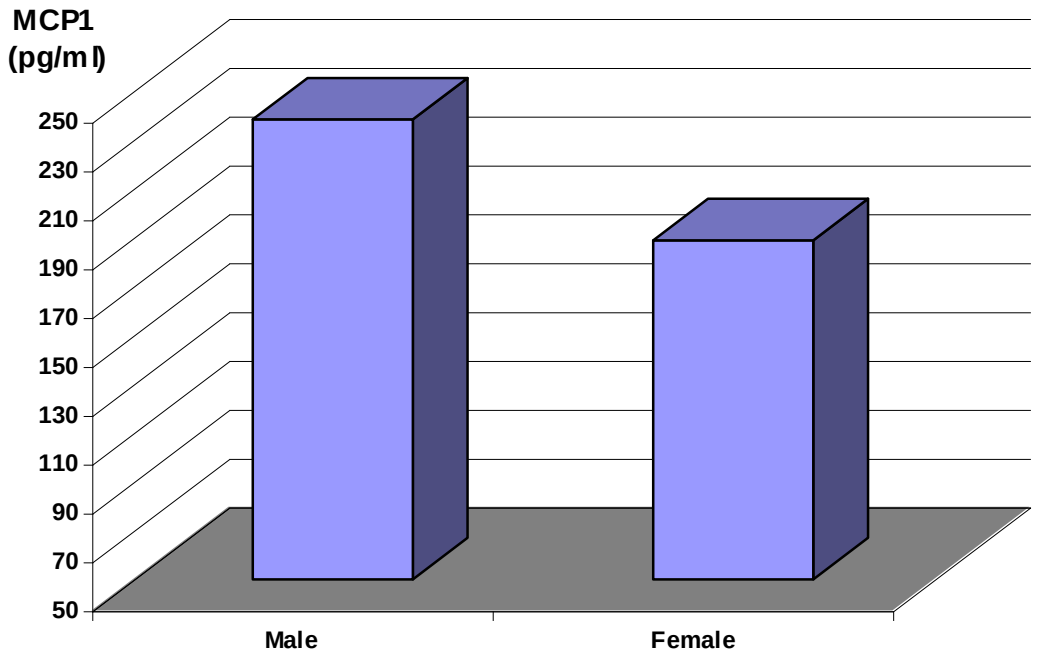


*Figure (39) showing Comparitive between MCP1 and gender in CAD group, it shows a non significant Correlation between MCP1 and gender.*

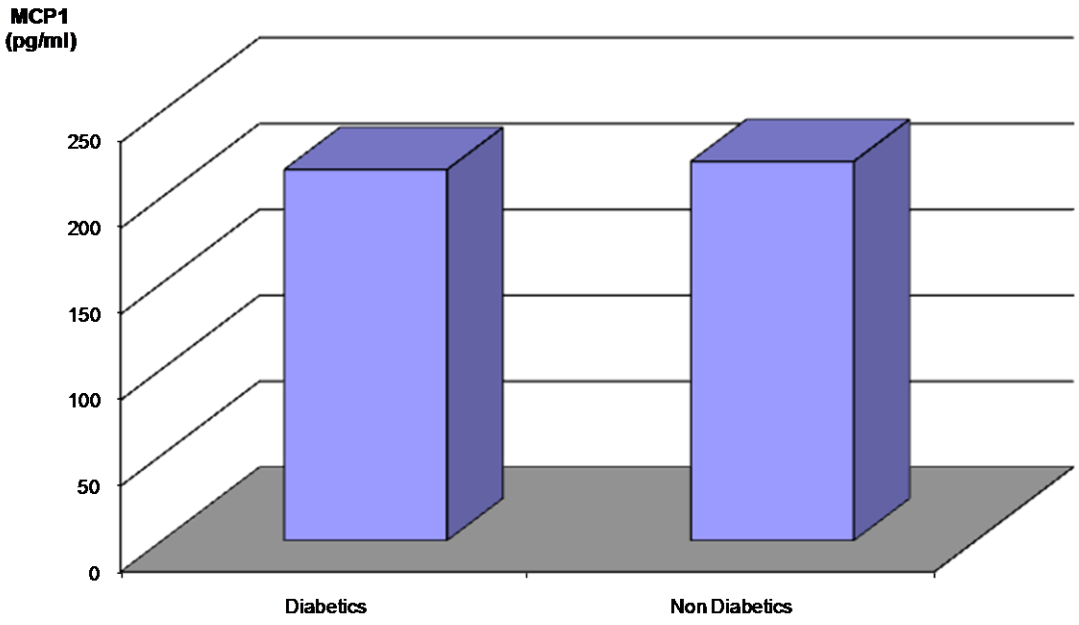


*Figure (40) showing Comparitive between MCP1 and DM in CAD group, it shows a non significant Correlation between MCP1 and DM.*

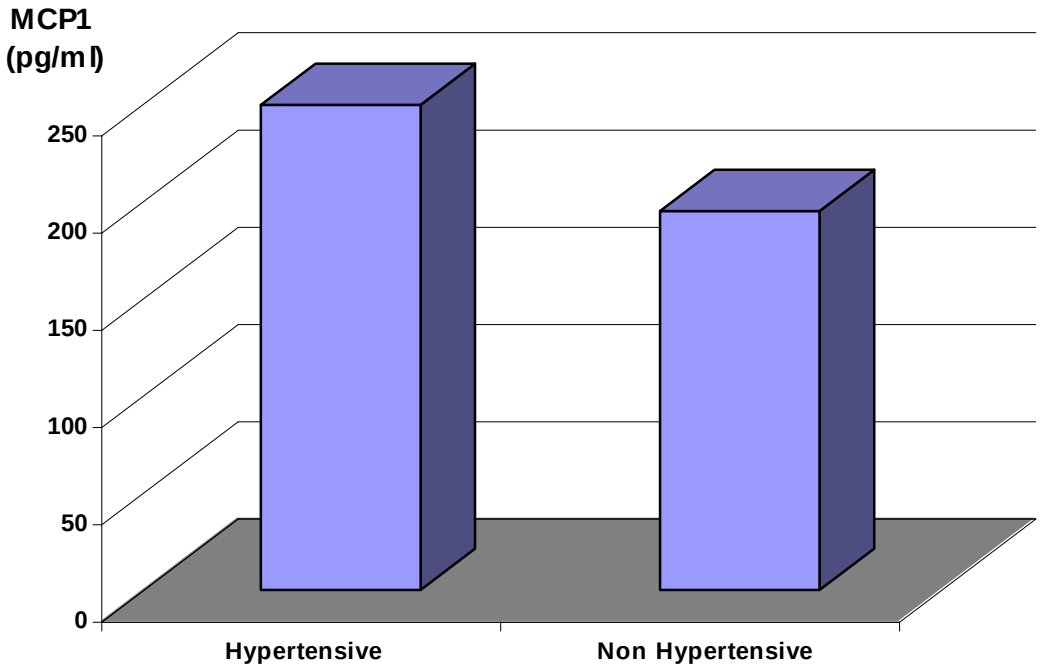


*Figure (41) showing Comparitive between MCP1 and HTN in CAD group, it shows a non significant Correlation between MCP1 and HTN.*

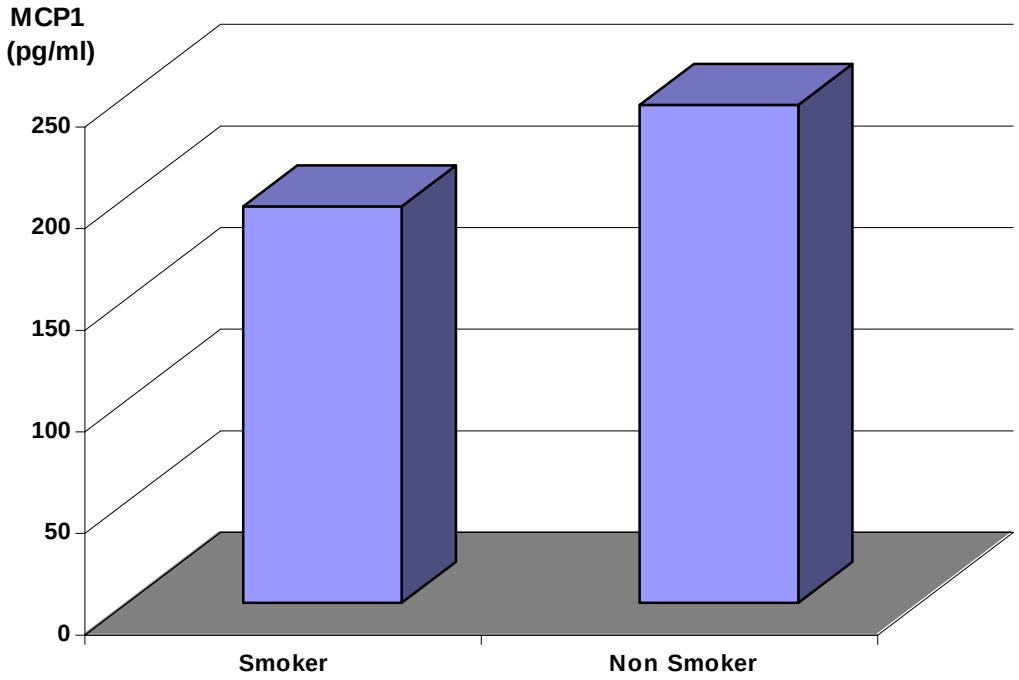


*Figure (42) showing Comparitive between MCP1 and smoking in CAD group, it shows a non significant Correlation between MCP1 and smoking.*

From the data shown in table (10) and figures (from 39 to 42) we found that there was a non significant Correlation between MCP1 and DM, HTN, gender and smoking among patients of CAD.