RESULTS

The distribution of studied groups according to sex. Table (1).

There was 25 patients males (43.1%) in ischemic group and 8 patients females (13.79%), but in non ischemic group there were 14 patients males (24.1%) and 11 patients females (18.96%).

Age in the patients groups. TABLE (2) & fig (3).

There was statistical significant between the ischemic and non ischemic groups and this difference was statistically highly significant for age in studied groups (t = 3.251), i.e. P = 0.002 (direct proportion) there increase of troponin T with increase age .

Duration of dialysis in the patients groups. TABLE (3) & fig (4).

There was difference between the ischemic and non ischemic groups and this difference was statistically not significant for duration of dialysis in studied groups (t = 0.94), i.e. P = 0.351, this mean that duration of dialysis not affect serum troponin T level.

Body mass index in the patients groups. TABLE (4) & fig (5).

There was statistical comparison difference between the ischemic and non ischemic groups and this difference was statistically not significant as regard to body mass index in patients groups (t = 0.946), P = 0.348, this mean that body mass index not affect serum troponin T level.

Number of subjects above and below cut-off value of troponin T & CK-MB, including the control. TABLE (5).

There were 10 subjects above the cut off value of troponin T and 58 subjects below it (cut off value of troponin T = 0.137), and there were 2 subjects above the cut off value of CK-MB and 66 subjects below it (cut off value of CK-MB = 14.59).

Sensitivity and specificity of CK-MB and ECG in the studied groups. TABLE (6).

This table shows the numbers of patient above and below the cut off value of CK-MB (as regards cut off value of troponin T) in studied groups, and calculation of sensitivity, specificity, positive predictive value and negative predictive value it show that, it's not sensitive (3.8%) but specific (97.6%).

C-reactive protein (CRP) in control and non ischemic groups. TABLE (7).

There was statistical comparison difference between the controls and non ischemic groups and this difference was statistically not significant (t = -1.435), P = 0.162, this mean that CRP not affected in either groups.

C-reactive protein (CRP) in control and ischemic groups. TABLE (8).

There was statistical comparison difference between the controls and ischemic groups and this difference was statistically significant (t = -7.311), P < 0.05, this mean that there's increase in CRP in ischaemic than in control.

C-reactive protein (CRP) in non ischemic and ischemic groups. TABLE (9).

There was statistical comparison difference between the non ischemic and ischemic groups and this difference was statistically significant (t = 5.369), P <0.05, this mean that, there is increase in CRP level in ischaemic than in non ischaemic.

Troponin T in control and silent ischemic groups. TABLE (10).

There was statistical comparison difference between the control and silent ischemic group and this difference was statistically significant (t = -3.833), P = 0.001, this mean that, serum troponinT increase in silent ischaemic than in controls.

Troponin T in control and manifest ischemic groups. TABLE (11).

There was statistical comparison difference between the controls and manifest ischemic groups and this difference was statistically significant (t = -4.268), P < 0.05, this mean that, troponin T increase in manifest ischaemic than in controls.

Troponin T in silent ischemic and manifest ischemic groups. TABLE (12).

There was statistical comparison difference between the silent ischemic and manifest ischemic groups and this difference was statistically significant (t = -3.506), P = 0.001 this mean that, troponin T increase in manifest ischaemic than in silent ischaemic.

Sensitivity and specificity of troponin T and ECG in the subjects, non ischemic includes the controls. TABLE (13).

This table shows the numbers of patient above and below the cut off value of troponin T in studied groups, and calculation of sensitivity, specificity, positive predictive value and negative predictive value it show that, it's not sensitive (25.9%) but specific (92.7%).

Erythrocytic sedimentation rate in the studied groups. TABLE (14) & fig (9).

There was statistical comparison difference between the ischemic and non ischemic groups and this difference was statistically significant ($t = 4.324$), $P < 0.05$, it mean that, ESR increase in ischaemic than in non ishaemic.

Biochemical parameters in control, non ischemic and ischemic groups. TABLE (15).

There was statistical comparison difference between the different groups: (i) as regard control and non ischemic groups there were statistically significant in serum creatinine, serum urea, serum albumin, serum ALT, serum alk. Pho., serum sodium, serum potassium, serum calcium and serum sodium bicarbonate (ii)as regard control and ischemic groups there were statistically significant in serum creatinine, serum urea, serum albumin, serum alk. Pho., serum sodium, serum potassium, serum calcium and there were statistically not significant in serum ALT and serum sodium bicarbonate (iii) as regard ischemic and non ischemic groups there were statistically significant in serum urea and serum

ALT and there were statistically not significant in serum creatinine, serum albumin, serum alk. Pho., serum creatinine, serum urea, serum sodium, serum potassium, serum calcium and serum sodium bicarbonate.

Serum lipids profile in controls, non ischemic and ischemic groups. TABLE (16) & fig (10 & 11 & 12 & 13 & 14).

There was statistical comparison difference between the different groups: (i) as regard control and non ischemic groups there were statistically significant in serum cholesterol, serum triglycerides, serum high density lipoprotein, serum low density lipoprotein, serum very low density lipoprotein (ii) as regard control and ischemic groups there were statistically significant in serum cholesterol, serum triglycerides, serum high density lipoprotein, serum low density lipoprotein, serum very low density lipoprotein (iii) as regard ischemic and non ischemic groups there were statistically significant in serum cholesterol, serum triglycerides, serum high density lipoprotein, serum low density lipoprotein, serum very low density lipoprotein.

Ejection fraction in the studied groups. TABLE (17).

There was statistical comparison difference between the silent ischemic and manifest ischemic groups and this difference was statistically significant for ejection fraction in studied groups ($t = 3.575$), $P = 0.034$, mean that, EF increase in manifest ischemic than in silent ischemic and in non ischemic than in control. There were 15 patients of manifest ischemic group with ejection fraction < 60%, but in silent ischemic there were 6 patients with ejection

fraction < 60%. Also, There were 20 patients of manifest ischemic group with LVH, but in silent ischemic there were 8 patients with LVH

LVSWT in control, silent and manifest ischemia Table (18).

There was statistical comparison difference between the silent ischemic and manifest ischemic groups and this difference was statistically significant for LVSWT in studied groups (t1 = 2.21, P1< 0.05), (t2 = 2.74, p2 < 0.05), so, LVSWT increase in manifest than in silent ischaemics.

LVESD in control, silent and manifest ischemia Table (19).

There was statistical comparison difference between the silent ischemic and manifest ischemic groups and this difference was statistically significant for LVESD in studied groups, LVESD increase in manifest than in silent ischaemic. But not significant between control and silent ischemia (t1 = 1.13, P1> 0.05), (t2 = 2.16, p2 < 0.01), so, it's not differ in silent than in control.

LVEDD in control, silent and manifest ischemia Table (20).

There was statistical comparison difference between the silent ischemic and manifest ischemic groups and this difference was statistically significant for LVEDD in studied groups LVEDD increase in manifest than in silent ischaemic. And significant between control and silent ischemia (t1 = 3.45, P1> 0.01), (t2 = 2.96, p2 < 0.01), so, LVEDD increase in manifest than in control.

Serum troponin T in control, silent and manifest ischemia

Table (21).

There was statistical comparison difference between the silent ischemic and manifest ischemic groups and this difference was statistically significant for troponin T in studied groups (t1 = 3.444, P1> 0.01), so troponin T increase in manifest than in silent ischaemic. And there was significant differance between control and silent ischemia, (t2 = 4.31, p2 < 0.01), so, troponin T increase in silent than in manifest ischaemic.

Correlation coefficient (r) between troponin T and echo. measures Table (22).

There was direct proportion correlation between troponin and left ventricular mass, left ventricular end diastolic dimension and left ventricular end systolic dimension.

TABLE (1): The distribution of studied groups according to sex.

58 patients			
ISCHEMIC PATIENTS (33) 56.9 %		NON ISCHEMIC PATIENTS(25) 43.1 %	
25 MALE 43.1%	8 FEMALE 13.79%	14 MALE 24.1%	11 FEMALE 18.96%

TABLE (2): age in the patient groups

Paramet. / Age (year)	ISCHEMIC	NON ISCHEMIC	P value	SIGNIFICANCE
	NO. 33 pts	NO. 25 pts		
MEAN ± SD	53.0938 8.2671	44.1154 11.9510	0.002	Significance

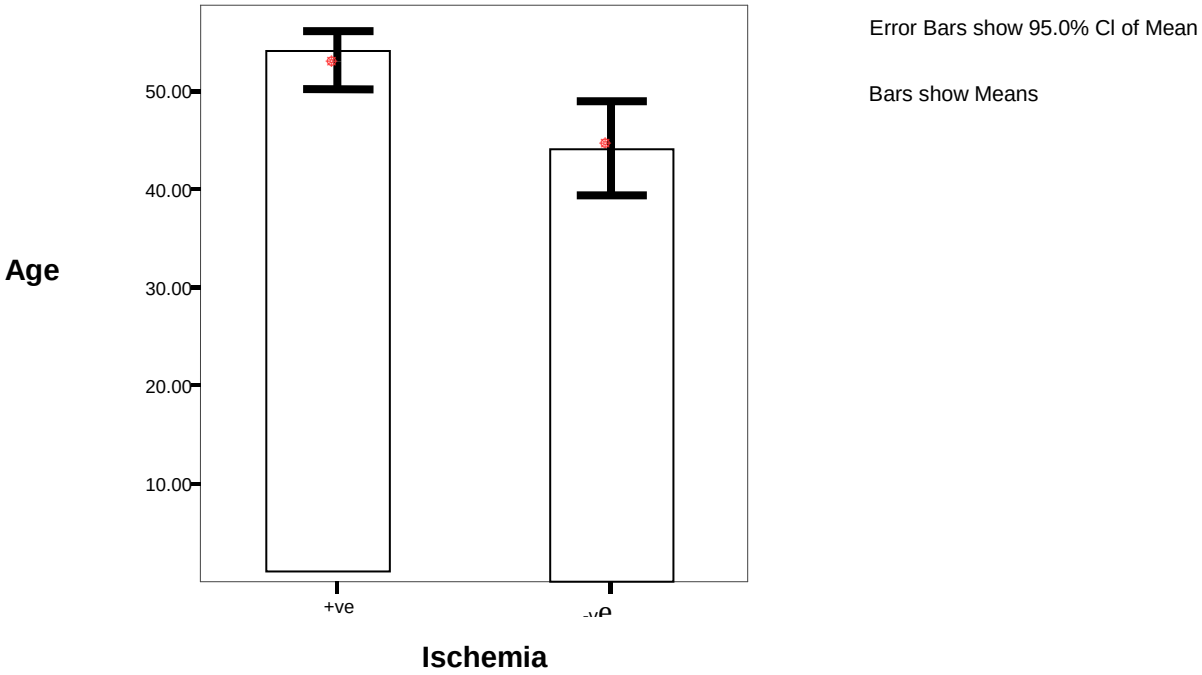

Figure (3): Age in the ischemic and non ischemic.

TABLE (3): duration of dialysis in the patient group.

Parameter / **Duration Of Dialysis (years)**	**ISCHEMIC**	**NON ISCHEMIC**	**P value**	**SIGNIFICANCE**
	NO. 33 pts	NO. 25 pts		
MEAN ± SD	3.2500 **±** 1.8535	3.7404 **±** 2.1195	0.351	**Not significant**

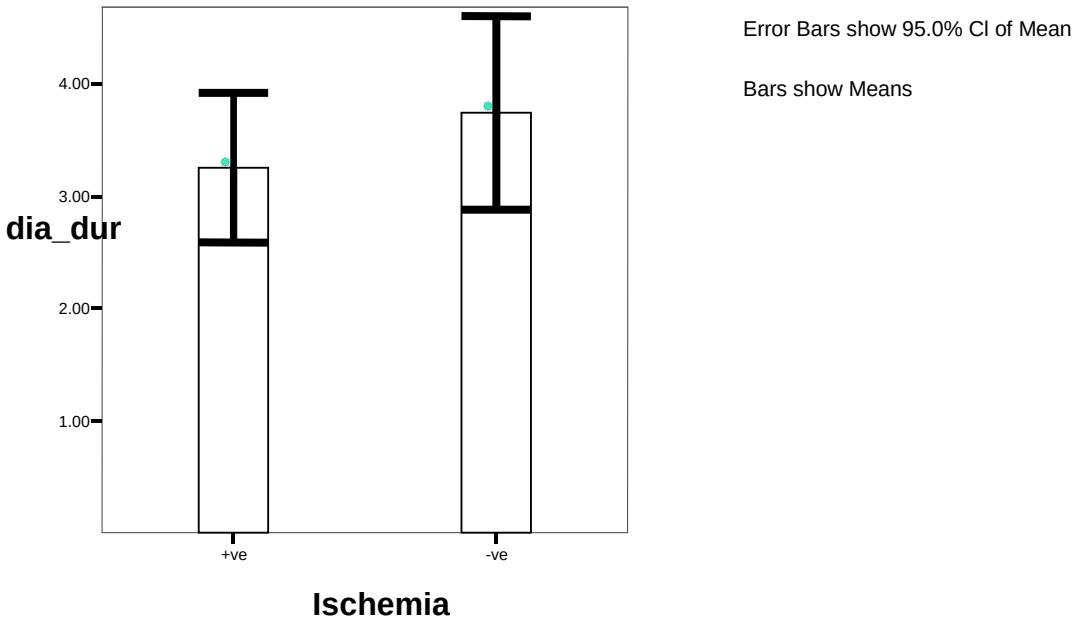

Fig (4): Duration of dialysis in ischemic and non ischemic patients.

TABLE (4): body mass index in the patient group

Parameter / BMI	ISCHEMIC	NON ISCHEMIC	P value	SIGNIFICANCE
	NO. 33 pts	NO. 25 pts		
MEAN ± SD	30.9858 ± 41.7713	23.1958 ± 3.8752	0.348	**Not significant**

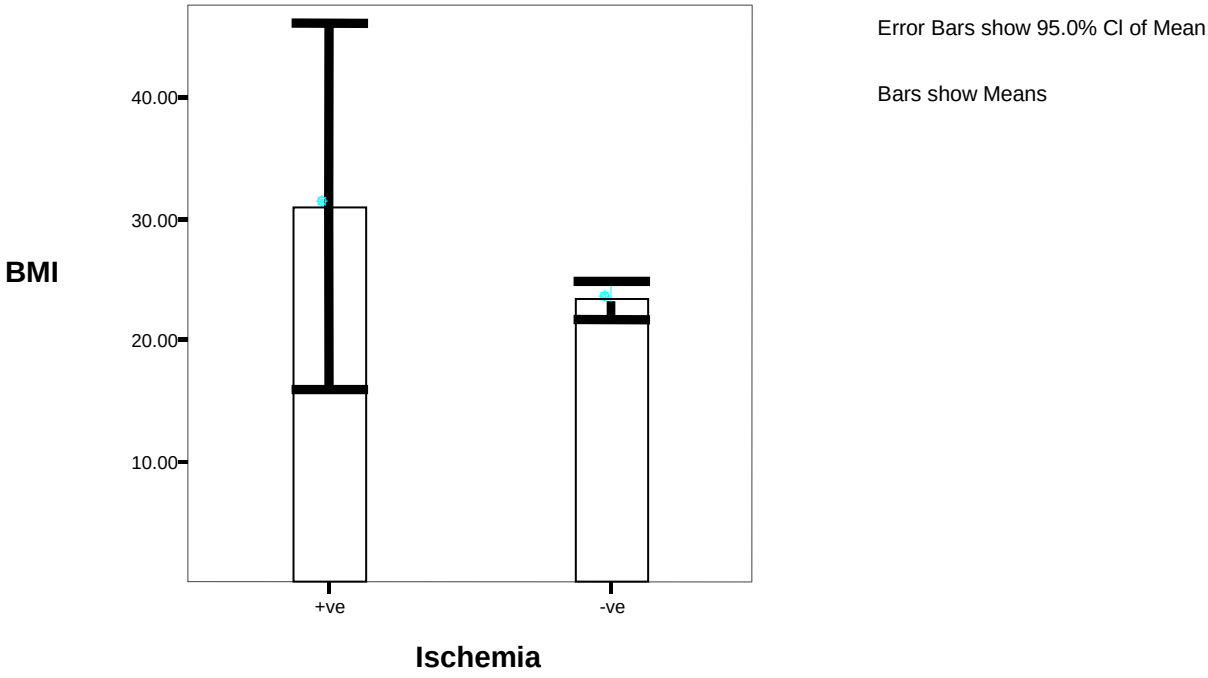

Fig (5): Body mass index in ischemic and non ischemic patients.

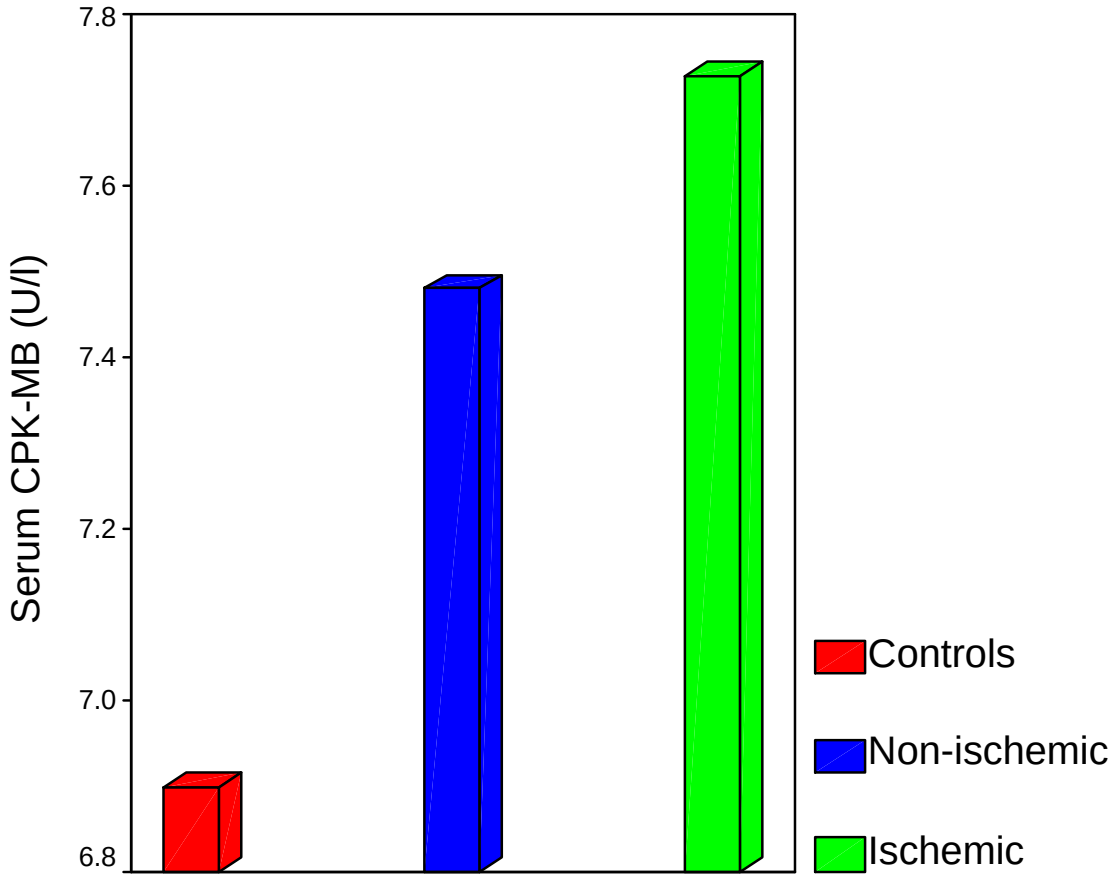

Fig (6): serum creatine kinase MB isoform level in different groups.

Table (5): Number of subjects above and below cut-off value of troponin T & CK-MB, including the controls.

Parameter	Above cut-off value	Below cut-off value
Troponin T	10 subjects	58 subjects
CK-MB	2 subjects	66 subjects

Table (6): sensitivity and specificity of CK-MB and ECG in the studied groups

ECG / CK-MB	**ISCHEMIC**	**NON ISCHEMIC**	**TOTAL**
+ ve	1	1	2
- ve	25	41	66
Total	26	42	68

- Cut-off value = mean ± 2× SD = 7.39 ± 2× 3.51 = 14.59
- N.B. Ischemic or non ischemic by the ECG.
- N.B. + ve troponin mean above the cutoff value.
  -ve troponin mean below the cutoff value.
- Non ischemic group include non ischemic and control groups

$$\text{Sensitivity} = \frac{1}{1+25} \times 100 = 3.8\%$$

$$\text{Specificity} = \frac{41}{1+41} \times 100 = 97.6\%$$

$$\text{+ve predictive value} = \frac{1}{1+1} \times 100 = 50\ \%$$

$$\text{-ve predictive value} = \frac{41}{41+25} \times 100 = 62.1\ \%$$

Table (7): C-reactive protein (CRP) in control and non ischemic groups.

Paramet. / CRP **(mg/dl)**	**CONTROL**	**NON ISCHEMIC**	**P value**	**SIGNIFICANCE**
	NO. 10 control	NO. 25 pts		
MEAN ± SD	5.70 **±** 2.16	8.68 **±** 9.80	0.162	**Not significant**

Table (8): C-reactive protein (CRP) in control and ischemic groups.

Paramet / **CRP (mg/dl)**	**CONTROL**	**ISCHEMIC**	**P value**	**SIGNIFICANCE**
	NO. 10 control	NO. 33 pts		
MEAN ± SD	5.70 **±** 2.16	27.45 **±**16.63	<0.05	**Significant**

Table (9): C-reactive protein (CRP) in non ischemic and ischemic groups.

Paramet / **CRP(mg/dl)**	**NON ISCHEMIC**	**ISCHEMIC**	**P value**	**SIGNIFICANCE**
	NO. 25 pts	NO. 33 pts		
MEAN ± SD	8.86 **±** 9.80	27.45 **±**16.63	<0.05	**Significant**

$p < 0.05$: significant.

$p > 0.05$: Non significant (N.S.).

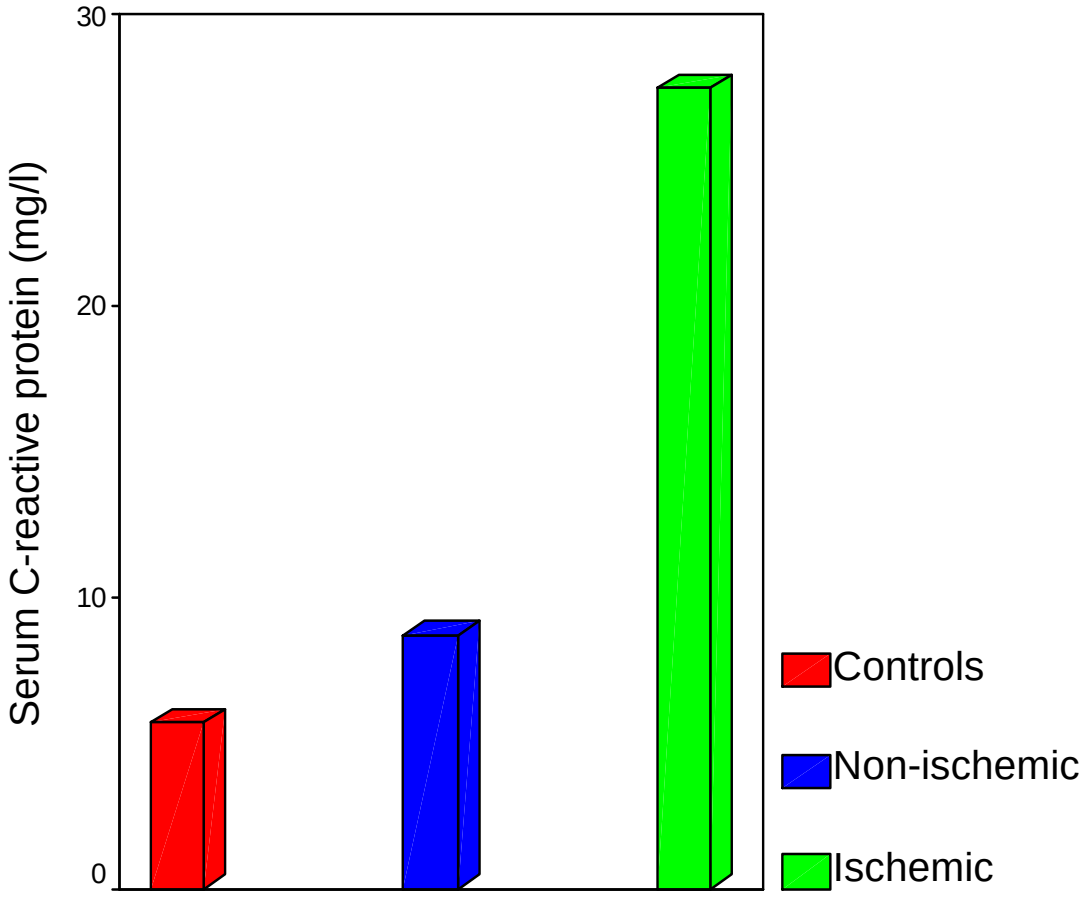

Fig (7): serum C-reactive protein level in different groups.

Table (10): Troponin T in control and silent ischemic groups.

Paramet / **Tropo T (Ng/ml)**	**CONTROL** NO. 10 control	**SILENT ISCHEMIC** NO. 16 pts	**P value**	**SIGNIFICANCE**
MEAN ± SD	0.004 **±** 0.001	0.03 **±** 0.03	0.001	**Significant**

Table (11): Troponin T in control and manifest ischemic groups.

Parameter / Trop **(Ng/ml)**	**CONTROL** NO. 10 control	**MANIFEST ISCHEMIC** NO. 26 pts	**P value**	**SIGNIFICANCE**
MEAN ± SD	0.004 **±** 0.001	0.15 **±** 0.2	<0.05	**Significant**

Table (12): Troponin T in silent ischemic and manifest ischemic groups.

Parameter / **Trop T(ng/ml)**	**SILENT ISCHEMIC** NO. 16 pts	**MANIFEST ISCHEMIC** NO. 26 pts	**P value**	**SIGNIFICANCE**
MEAN ± SD	0.03 **±** 0.03	0.15 **±** 0.2	0.001	**Significant**

$p < 0.05$: significant.

$p > 0.05$: Non significant (N.S.).

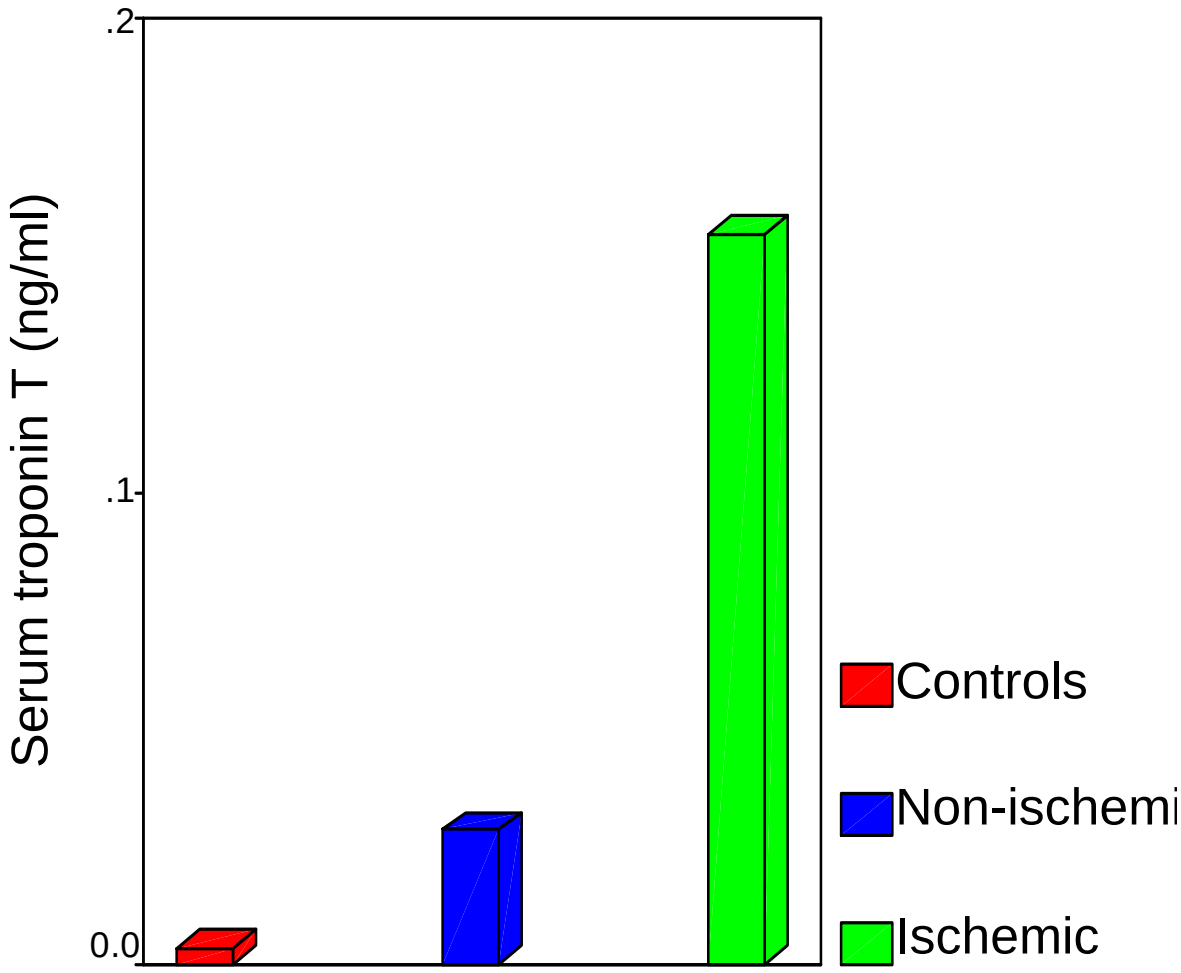

Fig.( ): serum troponin T in non-ischemic and ischemic groups comparedwith the controls

Table (13): sensitivity and specificity of troponin T and ECG in the studied groups, non ischemic includes the controls.

ECG / Trop T	ISCHEMIC	NON ISCHEMIC	TOTAL
+ ve	7	3	10
- ve	20	38	58
TOTAL	27	41	68

- Cut-off value = mean ± 2× SD = 0.029 ± 2× 0.054 = 0.137
- N.B. Ischemic or non ischemic by the ECG.
- N.B. + ve troponin mean above the cutoff value.
  -ve troponin mean below the cutoff value.
- Non ischemic group include non ischemic and control groups

$$\text{Sensitivity} = \frac{7}{20+7} \times 100 = 25.9\%$$

$$\text{Specificity} = \frac{38}{38+3} \times 100 = 92.7\%$$

$$\text{+ve predictive value} = \frac{7}{3+7} \times 100 = 70\ \%$$

$$\text{-ve predictive value} = \frac{38}{38+20} \times 100 = 65.5\ \%$$

TABLE (14): Erythrocytic sedimentation rate in the studied groups.

Paramet. / ESR	ISCHEMIC	NON ISCHEMIC	P value	SIGNIFICANCE
	NO. 33 pts	NO. 25 pts		
MEAN ± SD	65.0906 ± 21.2954	40.4308 ± 21.7795	0.005	**Significant**

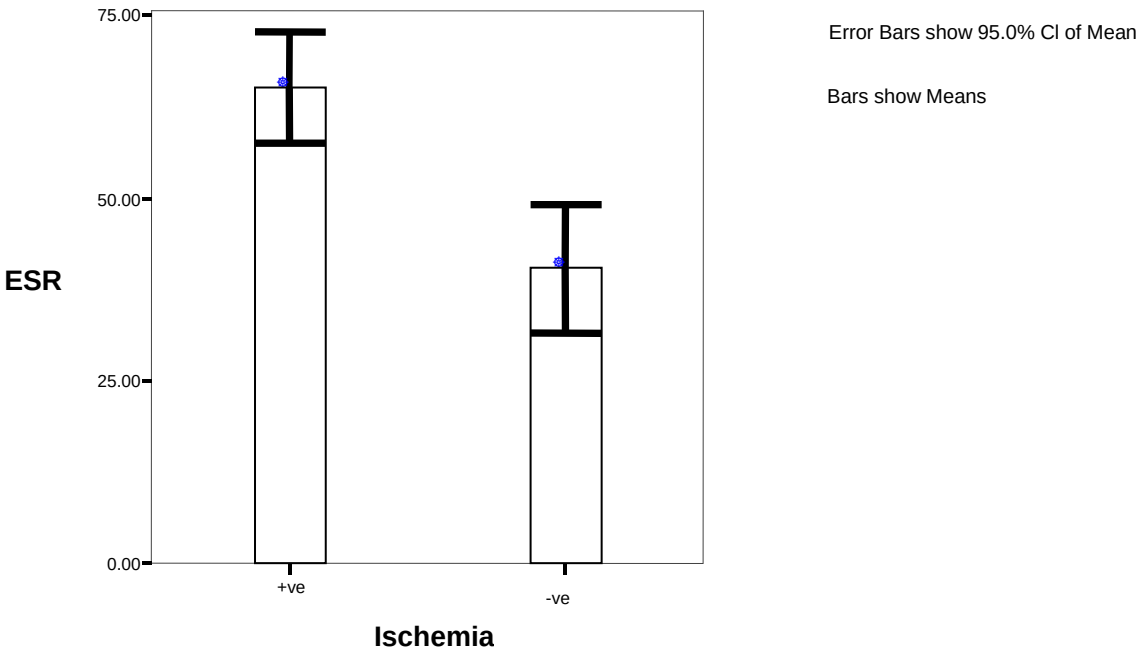

Fig (9): show the ESR in ischemic and non ischemic patients

Table (15): Biochemical parameters in control, non ischemic and ischemic groups.

groups / param	Control Group No. = 10	Non ischemic Group No. = 25	Ischemic Group No. = 33
S. creatinine (mg/dl)	0.94±.16 (0.7-1.2)	5.73±0.56 p <0.05	5.57±0.42 P1 <0.05 P2 = 0.802
S. urea (mg/dl)	31.40±3.95 (26-38)	133.31±31.54 p <0.05	132.43±34.59 P1 <0.05 P2 = 0.681
S. Albumin (g/dl)	4.51±0.36 (3.7-4.7)	2.76±0.12 p <0.05	2.79±0.14 P1 <0.05 P2 = 474
Serum ALT (µ/L)	12.60±2.76 (8-17)	10.50±3.94 p = 0.018	10.88±4.93 P1 = 709 P2 = 0.043
S. Alk. Pho. (µ/L)	97±12.43 (79-120)	308.92±30.56 p <0.05	297.34±25.52 P1 <0.05 P2 = 0.202
S. Sodium (µmol/l)	138.30±4.24 (133-146)	133.42±6.80 p = 0.018	131.69±7.27 P1 = 0.002 P2 = 0.47
S. Potassium (µmol/l)	4.12±0.33 (3.6-4.6)	5.72±0.38 p <0.05	5.58±0.39 P1 <0.05 P2 = 0.86

S. Calcium (mg/dl)	9.66±0.45 (9.1-10.4)	7.54±0.65 p <0.05	7.56±0.51 P1 <0.05 P2 = 0.768
Sodium bicarbonate	21.1±2.60 (18-26)	20.08±1.44 p= 0.106	19.97±1.58 P1 = 0.23 P2 = 0.34

Mean ± standard deviation (Range)

p < 0.05: significant.

p > 0.05: Non significant (N.S.).

p: probability versus control.

p1: probability of control versus non- ischemic.

p 2: probability of non- ischemic versus ischemic.

Table (16): Serum lipids profile in controls, non ischemic and ischemic groups.

Group / Param	Control Group (n=10)	Non-ischemic Group (n=25)	Ischemic Group (n=33)
S. Cholesterol Mg/dl	173.60±11.96	212.92±35.68 p=0.002	285.58±35.78 P1<0.05 P2<0.05
S. Triglycerides Mg/dl	92.4±23.71	199.80±52.57 p<0.05	278.58±48.60 P1<0.05 P2<0.05
S. HDL-c Mg/dl	62.50±4.77	25.00±3.1 p<0.05	34.55±2.53 P1<0.05 P2<0.05
S. LDL-c Mg/dl	95.20±17	147.64±30.81 p<0.05	196.73±34.63 P1<0.05 P2<0.05
S. VLDL-c Mg/dl	16.80±4.78	39.88±10.31 p<0.05	55.27±11.18 P1<0.05 P2<0.05

p < 0.05: significant.

p > 0.05: Non significant (N.S.).

p: probability versus control.

p 2: probability of non- ischemic versus ischemic.

p1: probability non- ischemic versus ischemic.

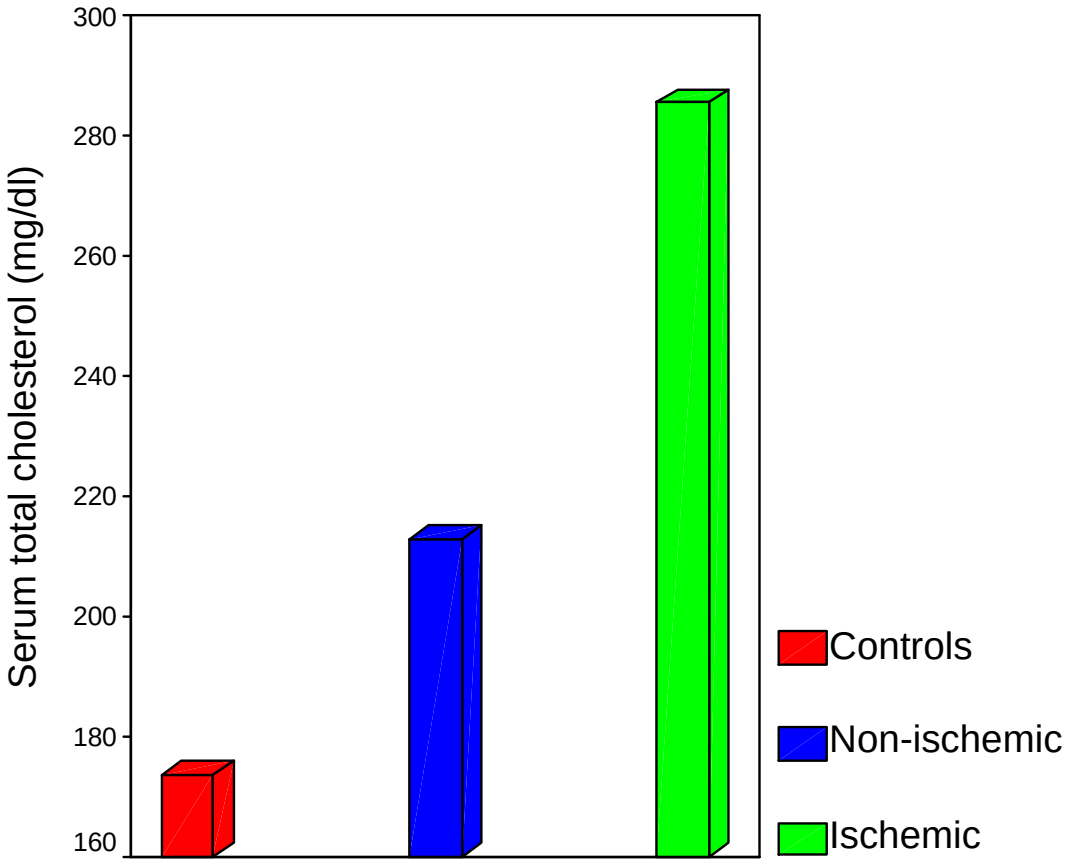

Fig (10): serum total cholesterol level in different groups.

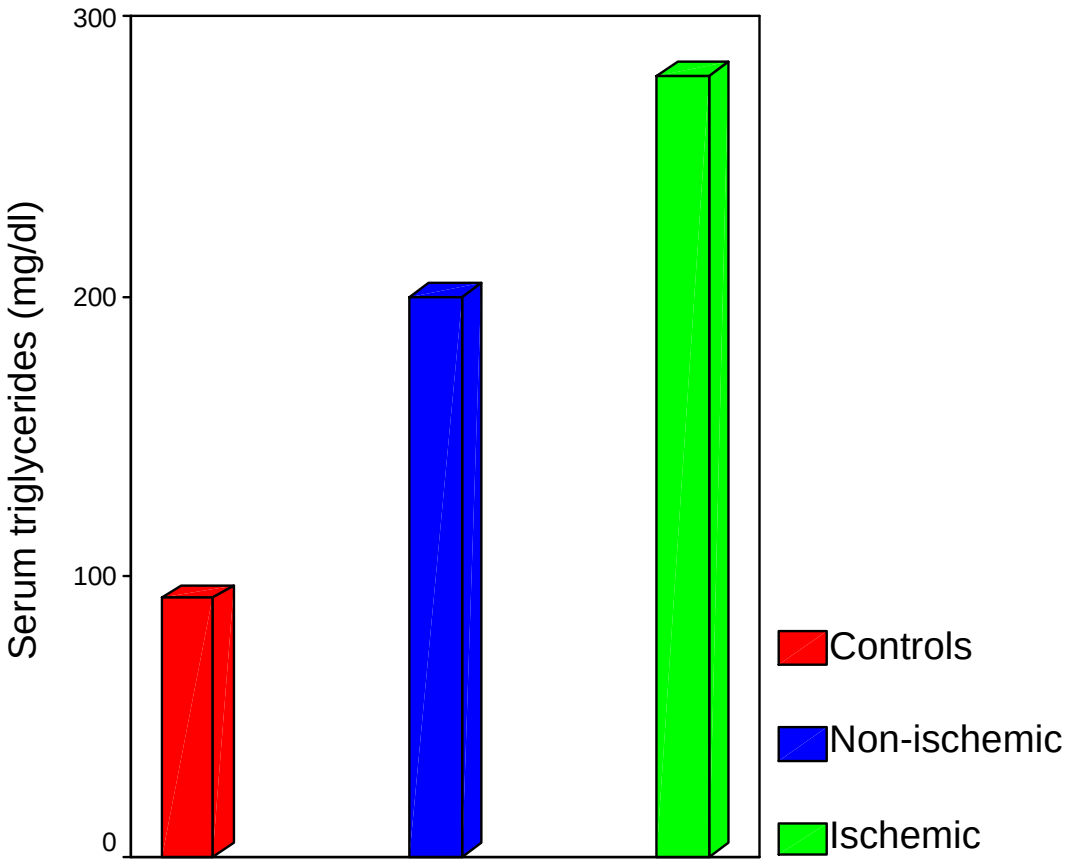

Fig (11): serum triglycerides level in different groups

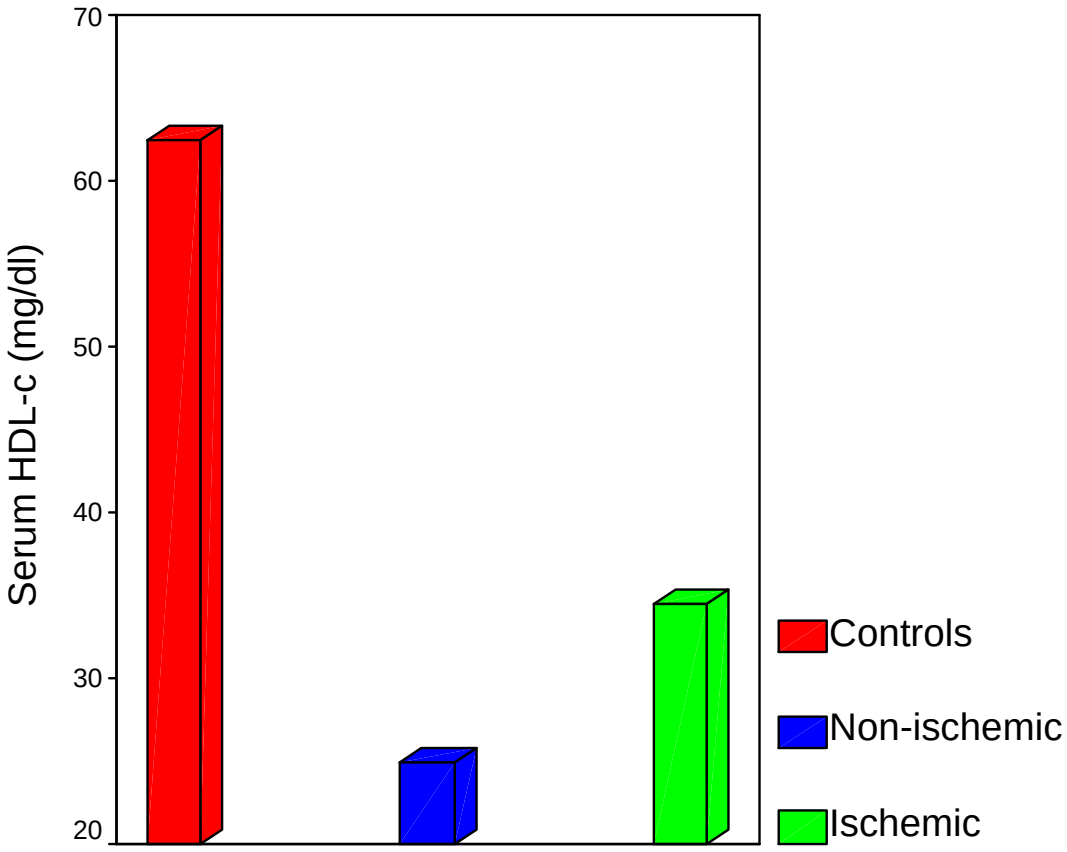

Fig (12): serum high density lipoprotein level in different groups.

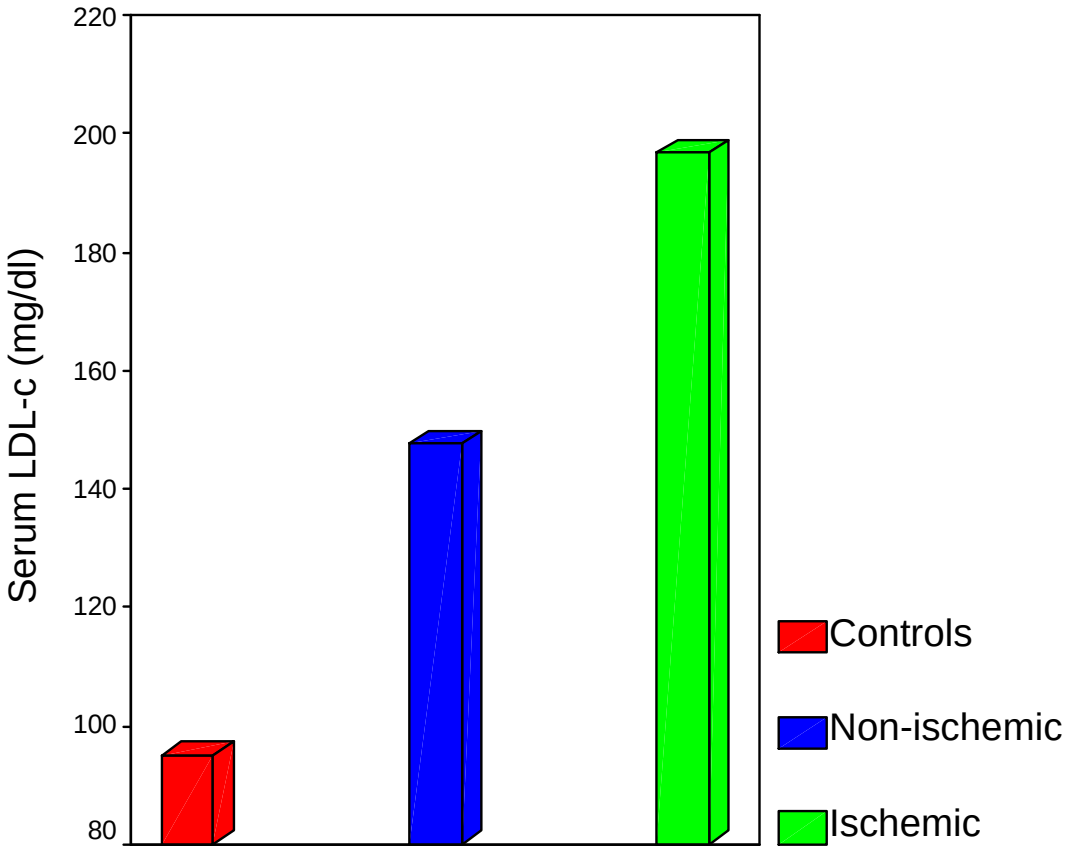

Fig (13): serum low density lipoprotein level in different groups.

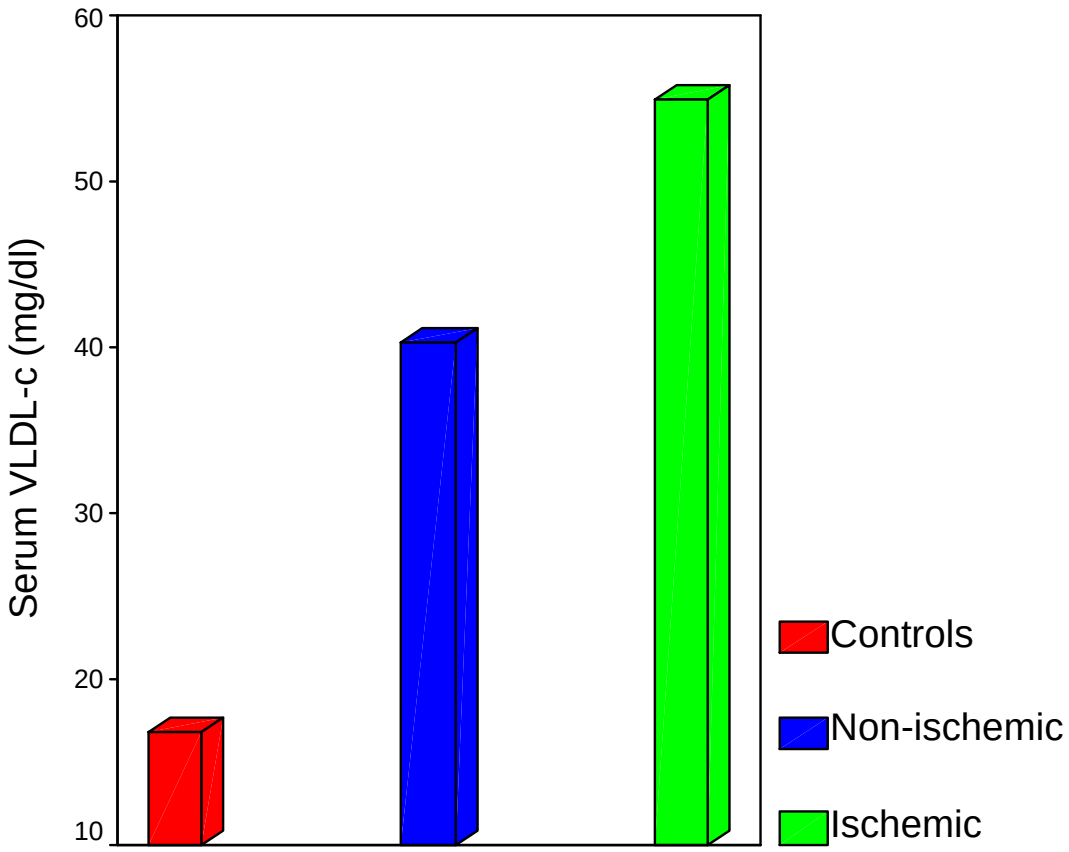

Fig (14): serum very low density lipoprotein level in different groups.

TABLE (17): Ejection fraction in the patients groups.

Paramet. / **EF (%)**	**MANIFEST ISCHEMIC** NO. 33 pts	**SILENT ISCHEMIC** NO. 25 pts	**P value**	**SIGNIFICANCE**
MEAN ± SD	60.7188 **±** 5.6923	63.8846 **±** 5.3166	0.034	**Significant**

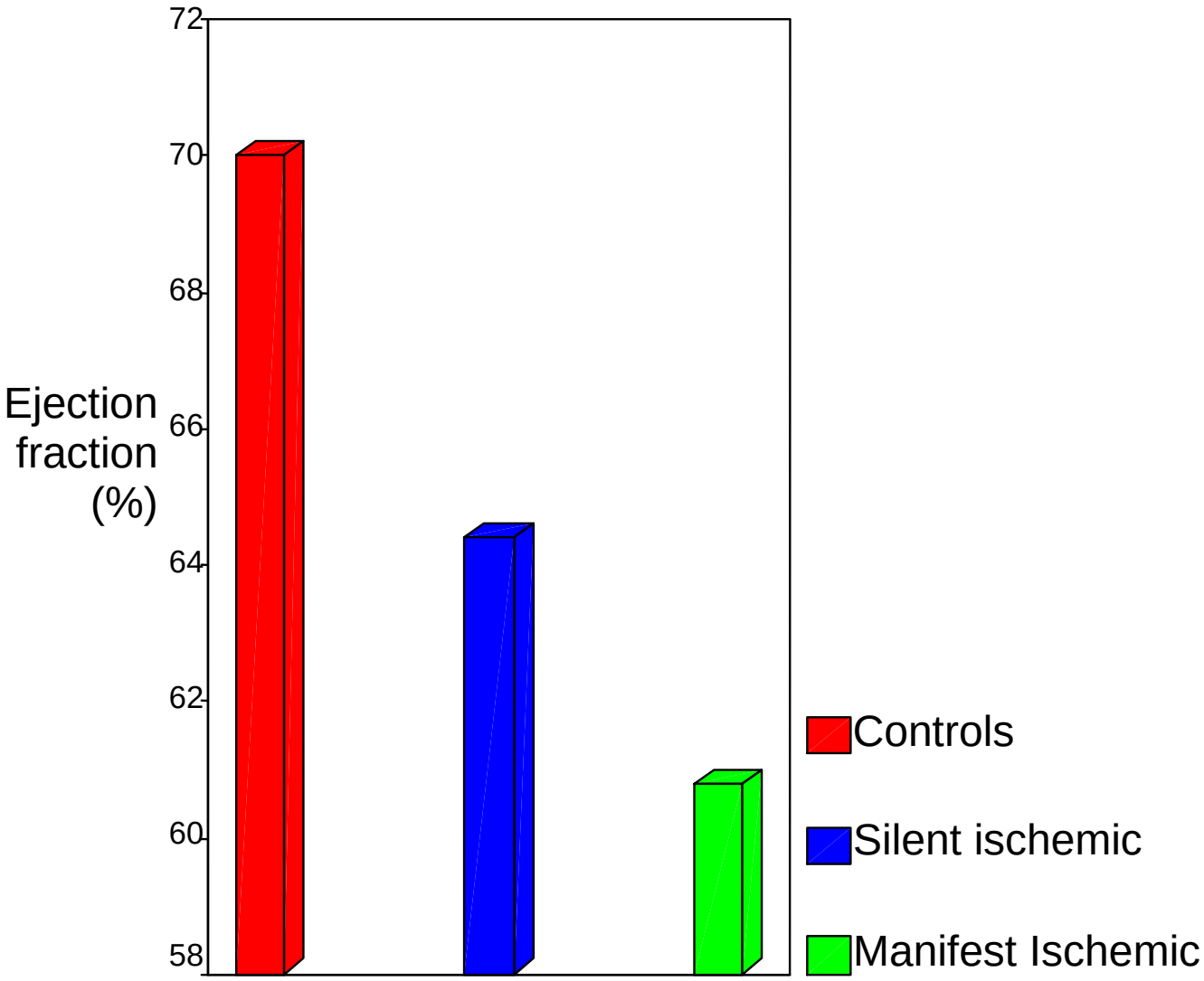

Fig (15): the ejection fraction in different groups.

Table (18): LVSWT in control, silent and manifest ischemia.

LVSWT (mm) / GROUPS	Mean ± SD	T test	P value	Significance
Control (10)	0.86 ± 0.13	----------	----------	----------
Silent (16)	0.99 ± 0.17	T1 = 2.21	P1 < 0.05	Significant
Manifest (26)	1 ± 0.16	T2 = 2.74	P2 <0.01	Significant

Table (19): LVESD in control, silent and manifest ischemia.

LVESD (mm) / GROUPS	Mean ± SD	T test	P value	Significance
Control (10)	3.23 ± 0.51	----------	----------	----------
Silent (16)	3.46 ± 0.46	T1 = 1.13	P1 > 0.05	Non Significant
Manifest (26)	3.64 ± 0.51	T2 = 2.16	P2 <0.01	Significant

Table (20): LVEDD in control, silent and manifest ischemia.

LVEDD (mm) / GROUPS	Mean ± SD	T test	P value	Significance
Control (10)	4.51 ± 0.61	----------	----------	----------
Silent (16)	5.24 ± 0.35	T1 = 3.45	P1< 0.01	Significant
Manifest (26)	5.15 ± 0.51	T2 = 2.96	P2<0.01	Significant

Table (21): Serum troponin T in control, silent and manifest ischemia.

Troponin / GROUPS	Mean ± SD	T test	P value	Significance
Control (10)	0.0035 ± 0.001	----------	----------	----------
Silent (16)	0.227 ± 0.26	T1 = 3.444	P1< 0.01	Significant
Manifest (26)	0.073 ± 0.08	T2 = 4.31	P2<0.01	Significant

Table (22): Correlation coefficient (r) between troponin T and echo. measures.

Troponin T	r	p
LVSWT	0.115	>0.05
LVESD	0.0676	>0.05
LVEDD	0.0263	>0.05

p < 0.05: significant.

p > 0.05: Non significant (N.S.).

T1: control versus silent.

T2: control versus manifest.

P1 : silent ischemia versus control.

P2 : manifest ischemia versus silent ischemia.