RESULTS

This work were performed on forty patients (twenty eight males an twelve females) with ischemic heart disease. Their ages ranged from 40 to 60 years with mean ± SD 50 ± 5.04. Patients were selected from those attended and admitted to the internal medicine department and intensive care unit of Benha University Hospitals. Also ten age and sex matched healthy volunteers subjects (five males and five females) taken as a control group.

The study included forty patients with ischemic heart disease.

Those were chosen as follows:

- Ten patients with stable angina " SA" (group I) .
- Fifteen patients with unstable angina " UA" (group II) .
- Fifteen patients with recent acute myocardial infarction "RAMI" (group III) .

In the AMI group five patients were presented by serious complications in the form of acute left sided heart failure, were treated and respond to treatment (two cases), cardiogenic shock and was treated but the patient not respond and was died (one case), ventricular arrhythmia and the patient was treated and respond to treatment (one case), cardiac arrest was treated by usual measures and D.C shock and not respond (one case).

The diagnosis of patients was based on full history taking, thorough clinical examination and simple non invasive investigations as (ECG, echocardiography and assessment of cardiac enzymes). Diabetic patients, hypertensive , chronic liver diseases and chronic kidney diseases were excluded from this study. For all patients total

lipogram and thyroid functions (T3 , T4, FT3, FT4 and TSH) were done.

The results for this work were demonstrated in tables from 1 to 8.

Table (1) shows the age of the studied groups (IHDs group and control group) and their statistical difference. There is no statistically significant difference regarding the age among the studied groups. As in group (I) mean = 49.9 ± 5.67 years, in group (II) mean = 50.33 ± 7.08 years, in group (III) mean = 50.87 ± 6.21 years and with mean ± SD of 49.8 ± 5.6 years in the control group. $P > 0.05$.

Table (2) shows the sex distribution among studied groups and their statistical difference. There is no statistically significant difference regarding sex distribution among the studied groups. In the control group 50% were males and 50% were females.

Table (3) shows the statistical difference between the studied groups regarding body mass index, which shows a non significant difference among the studied group, $P > 0.05$.

Table (4a) shows the statistical difference between the studied groups regarding CK_{MB}, which shows, that the control group significantly different from group (III) $p < 0.05$ and also shows that group (III) significantly different from group (I) and (II) , $p < 0.05$.

Table (4b) shows the statistical difference between the studied groups regarding lactate dehydrogenase hormone (LDH), which shows that group (III) significantly different from group (I), (II) and the control group, $P<0.05$.

Table (4c) shows a non significant difference between the studied groups as regarding serum glutamic oxaloacetic acid transaminaze (SGOT), $P > 0.05$.

Table (5) shows a significant difference between the patients group and the control group regarding the levels of total serum cholesterol, serum triglycerides and low density lipoprotein cholesterol, $p<0.05$. While there was a non significant difference between studied groups regarding the level of high density lipoproteins cholesterol, $p>0.05$.

Table (6) shows a significant difference among the studied groups regarding total tri-iodothyronine (TT3), group (III) and group (II) significantly different from group (I) and control group , $p < 0.05$. While there were a non significant difference regarding total thyroxine (TT4), free tri-iodothyronine (FT3), free thyroxine (FT4) and thyroid stimulating hormone (TSH) between the studied groups, $p>0.05$.

Table (7) shows the statistical difference in the recent acute myocardial infarction group between the patients with serious complication and patients without serious complication, which shows a significant difference between the serious complicated and non serious complicated infarction patients regarding creatine kinase (CK_{MB}), $p<0.05$. While regarding total serum cholesterol, serum triglycerides, high density lipoproteins cholesterol and low density lipoprotein cholesterol there were no significant difference between the two groups, $p>0.05$.

Table (8) shows a significant statistical difference between the patients with serious complicated and non serious complicated infarction regarding total T3 (TT3), total T4 (TT4) and thyroid stimulating hormone (TSH), $p< 0.05$. While a non significant difference regarding free T3 (FT3)and free T4 (FT4) in the same patients, $p>0.05$.

Table (1) Range and mean ± SD of the age of the studied groups and their statistical difference .

Age (years)	*Ischemic heart disease " n= 40 "*			*Control Group "n=10"*
	SA (GI) "n=10"	*UA (GII) "n= 15"*	*RAMI (GIII) "n=15"*	
Range	40-60	43-60	44-60	42-58
Mean (ys)	49.9	50.33	50.87	49.8
± SD	± 5.67	±7.08	±6.21	± 5.6
F	0.068			
Sig.	(N.S.)			
P	> 0.05			

SD = standard deviation .

N = number .

SA = stable angina.

GI = group I .

UA = unstable angina.

GII = group II .

RAMI = Recent acute myocardial infarction .

GIII = group III .

Sig = significant .

(N. S.) = Non significant.

Table (2) Mean ± SD of the sex of

the studied groups and their statistical difference .

Sex	*Ischemic heart disease " n= 40 "*						*Control Group "n=10"*	
	SA (GI) "n=10"		*UA (GII) " n= 15"*		*RAMI (GIII) "n=15"*			
	N	%	N	%	N	%	N	%
Males	7	70.0	11	73.3	10	66.7	5	50.0
Females	3	30.0	4	26.7	5	33.3	5	50.0
Total	10	100.00	15	100.0	15	100.0	10	100.0
Chi (X_2)	1.575							
P	> 0.05							
Sig.	(N . S.)							

Table (3) Range and mean ± SD of the body mass index in the studied groups and their statistical difference .

Body mass index (kg/m2)	***Ischemic heart disease " n= 40 "***			***Control Group "n=10"***
	SA (GI) "n=10"	***UA (GII) "n=15"***	***RAMI (GIII) "n=15"***	
Range	26-32	23-35	26-36	22-29
Mean	29.00	30.80	31.10	25.1
± S.D.	2.13	3.34	2.65	4.13
F	0.634			
P	> 0.05			
Sig.	(N.S.)			

Table (4a) Range and mean ± SD of CK_{MB} in the studied groups and their statistical difference .

CK_{MB} (unit / liter)	***Ischemic heart disease " n= 40 "***			***Control Group " n=10"***
	SA (GI) "n=10"	***UA (GII) "n=15"***	***RAMI (GIII) "n=15"***	
Range	10-23	10-30	19-250	10-24
Mean	17.10	19.93	122.27	16.90
± S.D.	4.12	5.39	84.08	4.12
F	17.485			
P	< 0.05			
Sig.	(S)			
Scheffe test	• Control group significantly different from group III • Group III significantly different from groups I and II			

Table (4b) Range and mean ± SD of LDH in the studied groups and their statistical difference .

LDH (unit / liter)	***Ischemic heart disease " n= 40 "***			***Control Group "n=10"***
	SA(GI) "n=10"	***UA(GII) "n=15"***	***RAMI (GIII) "n=15"***	
Range	240-390	210-610	235-1987	240-395
Mean	304.50	342.13	917.07	301.67
± S.D.	48.67	129.89	548.49	49.50
F	12.796			
P	< 0.05			
Sig	(S)			
Scheffe test	• Control group significantly different from group III • Group III significantly different from groups I and II			

Table (4c) Range and mean ± SD of SGOT in the studied groups and their statistical difference .

SGOT (unit / liter)	***Ischemic heart disease " n= 40 "***			***Control Group "n=10"***
	SA (GI) "n=10"	***UA (GII) "n=15"***	***RAMI (GIII) "n=15"***	
Range	9 – 35	11-50	10-45	9-34
Mean	22.30	25.33	27.27	22.70
± S.D.	9.39	11.65	12.17	9.19
F	0.607			

P	> 0.05
Sig.	(N.S.)

Table (5) Range and mean ± SD of blood lipogram in the studied groups and their statistical difference .

Lipogram	*Ischemic heart disease " n= 40 "*			*Control Group "n=10"*	*F*
	SA (GI) "n=10"	*UA (GII) "n=15"*	*RAMI(GIII) "n=15"*		
Total serum cholesterol (mg/dl)					8.240 p < 0.05 (S)
Range	167-250	87-240	135-270	87-170	
Mean	201.70	231.00	240.6	122.70	
±S.D.	28.50	83.04	39.49	32.12	
Scheffe test	• Control group significantly different from groups I,II and III.				
Serum triglyceides in (mg/dl)					9.918 p < 0.05 (S)
Range	90-287	135-270	130-270	75-170	
Mean	160.30	187.53	205.47	113.30	
±S.D.	67.50	34.89	37.49	31.97	
Scheffe test	• Control group significantly different from groups II and III.				
Serum HDLc in (mg/dl)					2.807 p >0.05 (N.S.)
Range	30-55	31-75	31-70	30-51	
Mean	37.30	33.93	27.33	40.50	
±S.D.	8.82	4.22	3.70	7.76	
Serum LDLc in (mg/dl)					9.881 p < 0.05 (S)
Range	75-215	125-270	130-270	75-135	
Mean	126.00	167.27	175.47	109.00	
±S.D.	41.57	37.37	36.79	18.28	
Scheffe test	• Control group significantly different from groups I , II and III.				

Table (6) : Range and mean ± SD of thyroid function in the studied groups and their statistical difference .

Thyroid function tests	*Ischemic heart disease " n= 40 "*			*Control Group "n=10"*	*F*
	SA(GI) "n=10"	*UA (GII) "n=15"*	*RAMI(GIII) "n=15"*		
Total T3 (pg/ml)					
Range	1.07-2.50	1.07-2.78	0.86-1.98	1.78-2.98	12.047 $p < 0.05$ (S)
Mean	1.89	1.47	1.21	2.26	
± S.D.	0.50	0.49	0.40	0.36	
Scheffe test	• Control group significantly different from groups II and III. • Group I significantly different from groups II and III.				
Total T4 (pg/ml)					
Range	4.10-11.02	4.95-11.8	2.39-10.9	4.5-11.1	0.619 $p > 0.05$ (N.S.)
Mean	7.16	7.04	6.55	7.28	
± S.D.	2.12	2.20	2.93	2.14	
Free T3 (pg/ml)					
Range	1.1-3.7	0.9-1.9	0.7-3.9	1.1-3.7	4.990 $p > 0.05$ (N.S.)
Mean	2.39	2.14	2.04	2.39	
± S.D.	0.82	0.58	0.84	0.82	
Free T4 (ng/dl)					
Range	0.8-1.9	0.7-4.0	0.8-1.9	0.8-1.8	4.950 $p > 0.05$ (N . S)
Mean	1.47	1.40	1.31	1.47	
± S.D.	0.36	1.03	0.35	0.36	
TSH (IU/ml)					
Range	1.69-3.10	1.2-3.1	0.1-3.02	1.69-3.1	1.189 $p > 0.05$ (N.S.)
Mean	2.29	2.01	1.78	2.30	
± S.D.	0.53	0.62	0.78	0.52	

Table (7): Range and mean ± SD of CK_{MB} and blood lipogram among patients with acute myocardial infarction in relation to occurrence of serious complications.

Variables	*Group III (RAMI) "n=15"*		*Z*	*P*
	Without serious complications "n=10"	*With serious complications "n=5"*		
CK_{MB} (U/L)				
Range	19-202	190-250	2.942	< 0.05 (S)
Mean	73.90	219.00		
±S.D.	54.43	23.02		
Total serum cholesterol (mg/ dL):				
Range	135-270	189-319	1.411	> 0.05 (N.S.)
Mean	231.90	258		
±S.D.	29.39	23.45		
Serum triglycerides (mg/dL):				
Range	175-242	135-270	1.106	> 0.05 (N.S.)
Mean	199.60	217.20		
±S.D.	27.33	54.60		
Serum HDLc (mg/dL)				
Range	25-40	20-28	1.476	> 0.05 (N.S.)
Mean	30.12	25.2		
± S.D.	2.31	2.4		
Serum LDLc (mg/ dL)				
Range	130-270	165-210	1.288	> 0.05 (N.S.)
Mean	170.00	186.40		
± S.D.	42.85	19.55		

Table (8) : Range and mean ± SD of thyroid hormones among patients with recent acute myocardial infarction in relation to occurrence of serious complications.

Variables	*Group III (RAMI) "n=15"*		*Z*	*P*
	Without serious complications "n=10"	*With serious complications "n=5"*		
Total T3 (pg/ml)				
Range	1.02-1.98	0.86-1.10	3.062	< 0.05 (S.)
Mean	1.34	0.94		
± S.D.	0.43	0.10		
Total T4 (pg/ml)				
Range	5.94-10.99	2.39-3.31	2.749	< 0.05 (S.)
Mean	8.33	2.99		
± S.D.	1.64	0.37		
Free T3 (pg/ml)				
Range	0.01-3.90	0.7-1.7	2.172	> 0.05 (N.S.)
Mean	2.51	1.30		
± S.D.	0.82	0.38		
Free T4 (ng/dL)				
Range	0.8-1.9	0.9-1.8	0.062	> 0.05 (N.S.)
Mean	1.31	1.32		
± S.D.	0.37	0.35		
TSH (IU / ml)				
Range	1.96-3.02	0.1-0.29	2.96	< 0.05 (S.)
Mean	2.56	0.23		
±S.D.	0.41	0.10		