

Results

This study included 62 consecutive patients (31 males and 31 females) with age ranging from 22 to 80 years. They were admitted to the cardiology department, C.C.U or attended the outpatient cardiac clinic at Mansoura International Specialized Hospital for assessment & treatment of recent atrial fibrillation during the period from October 2005 to October 2006

52 patients were cardioverted by amiodarone, propafenon, both or DC shock & 10 patients persist with A.F

Table (1) Demographic characteristics of the cardioverted cases (Group I)

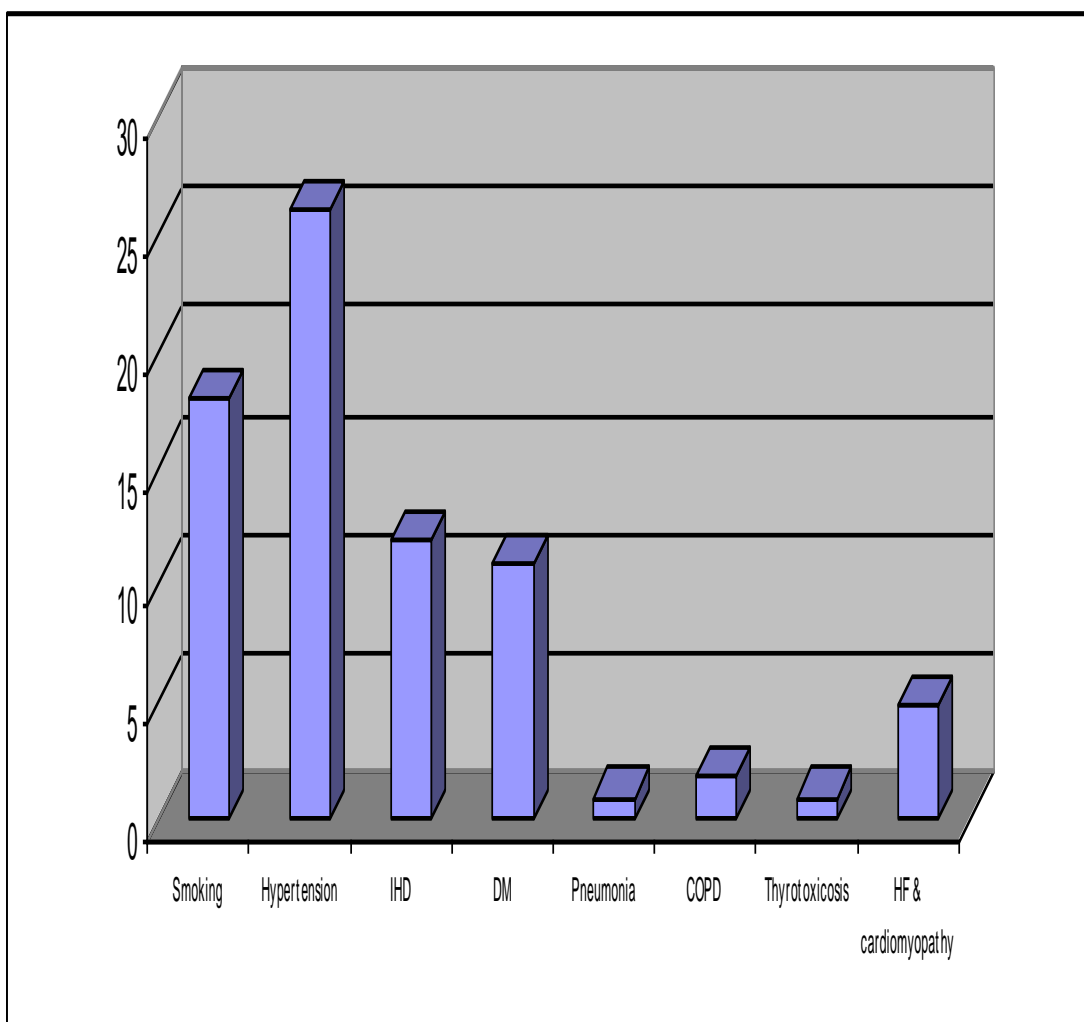
Age (years)	Range	22.0 - 80.0
	Mean \pm SD	50.431 \pm 15.250
Sex	Male	26 (50.0 %)
	Female	26 (50.0 %)

- Table (1) shows that the age of cardioverted patients ranged from 22 to 80 years, the mean age was 50.431 years old with standard deviation ± 15.250 years & 26 patients (50%) were males & 26 patients (50%) were females.

Table (2) Risk factors for AF in the cardioverted group:-

Risk factors	No (52) (100%)
Smoking	18 (34.6 %)
Hypertension	26 (50.0 %)
Mitral valve lesions	21 (40.4 %)
IHD	12 (23.1 %)
COPD	3 (5.8 %)
Thyrotoxicosis	1 (1.9 %)
H.F & Cardiomyopathy	5 (9.6 %)

- Table (2) shows that 18 patients (34.6%) were cigarette smokers, 26 patients (50%) were hypertensive ,21 patients (40.4%) had mitral valve lesions, 12 patients (23.1%) had IHD , 5 patients (9.6%) had HF & Cardiomyopathy; (CM), 3 patients (5.8%) had COPD and one patient (1.9 %) was thyrotoxic.

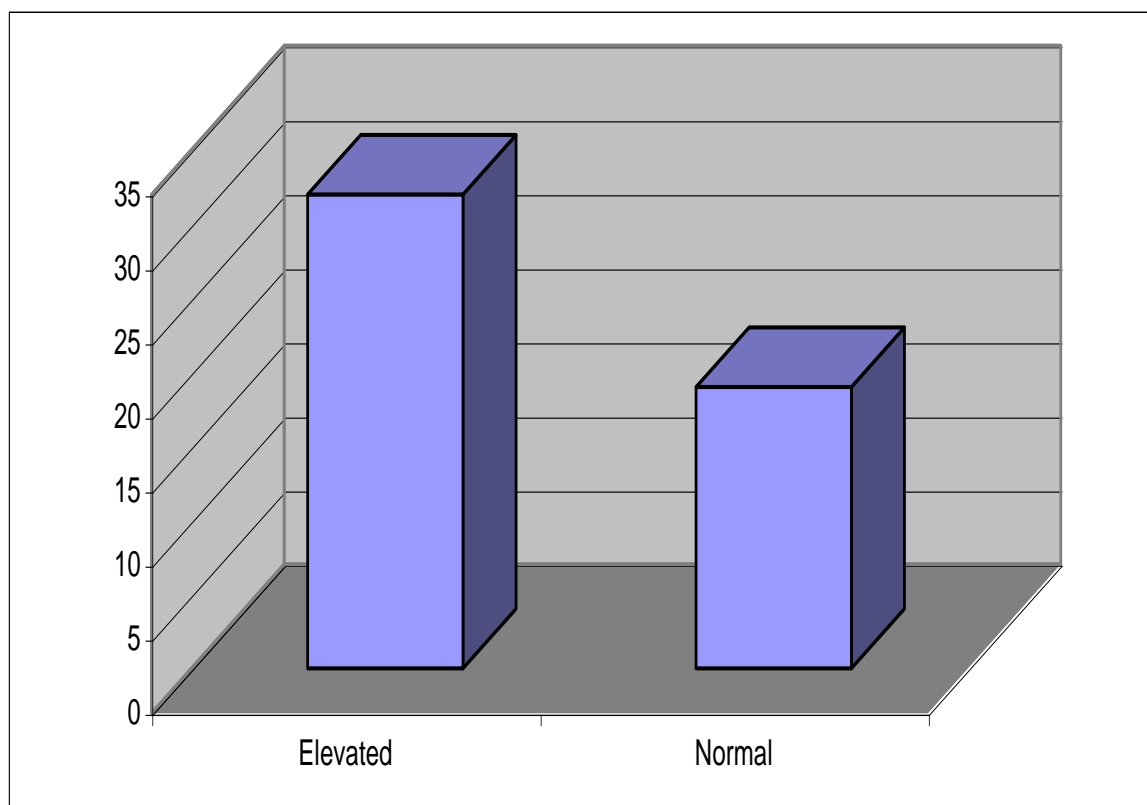


Risk factors for AF in the cardioverted group

Table (3) Laboratory investigations of the cardioverted group:-

CRP	Elevated	33 (63.5 %)
	Normal	19 (36.5 %)
S. creatinine (mg / dl)	Range	0.43 - 5.17
	Mean \pm SD	1.209 \pm 0.829
S. creatinine	Normal	45 (86.5 %)
	Elevated	7 (13.5 %)
S. bilirubin (total) (mg / dl)	Range	0.18 - 2.53
	Mean \pm SD	0.716 \pm 0.440
S. bilirubin (total)	Normal	47 (90.4 %)
	Elevated	5 (9.6 %)
ALT (U / I)	Range	11.0 - 130.0
	Mean \pm SD	33.451 \pm 24.011
ALT	Normal	40 (76.9 %)
	Elevated	12 (23.1 %)
AST (U / I)	Range	1.2 \pm 81.0
	Mean \pm SD	34.082 \pm 19.525
AST	Normal	39 (75.0 %)
	Elevated	13 (25.0 %)

- Table (3) shows that CRP was normal in 19 patients (36.5%) [n : <6 mg /dl] & elevated in 33 patients (63.5%) Serum creatinine was normal in 45 patients (86.5%) [n : 0.4 -1.4 mg / dl] & elevated in 7 patients (13.5%). Total serum bilirubin was normal in 47 patients (90.4%) [n : 0.1-1.0 mg / dl] & elevated in 5 patients (9.6%), ALT was normal in 40 patients (76.9 %) [n : 5-45 4 U/I] & elevated in 12 patients (23.1%). AST was normal in 39 patients (75%) [n : 5-38 U/I] & elevated in 13 patients (25%).

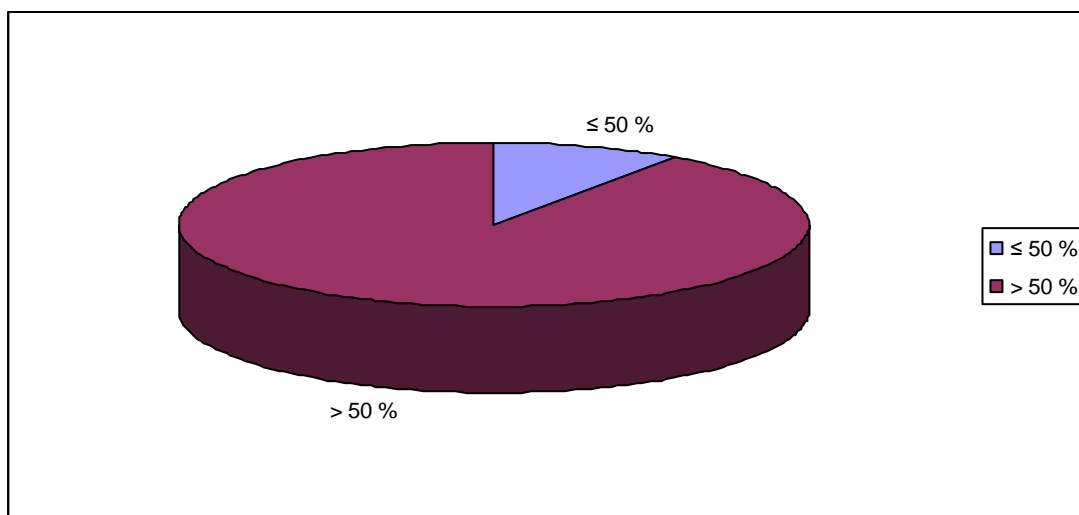


CRP in the cardioverted group

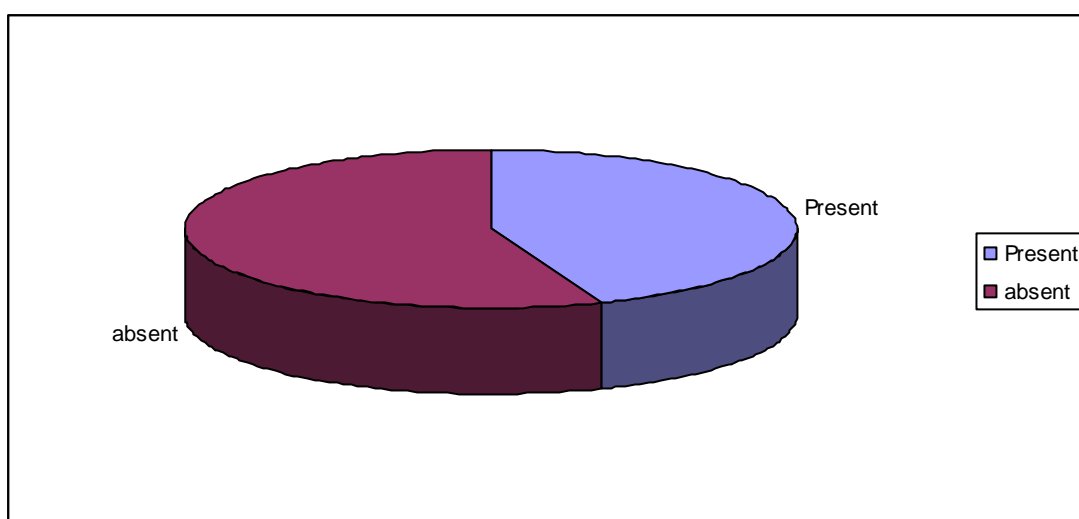
Table (4) Echocardiographic findings in the cardioverted group :-

Ejection fraction	<50 %	5 (9.6 %)
	≥50 %	47 (90.4 %)
Valvular lesions	Present	23 (44.2 %)
	absent	29 (55.8 %)
E/A ration	Reversed	26 (50.0 %)
	Normal	26 (50.0 %)
Left atrium	> 4 cm (dilated)	20 (38.5 %)
	≤ 4 cm (normal)	32 (61.5 %)
Wall motion abnormalities	Present	12 (23.1 %)
	Absent	40 (76.9 %)

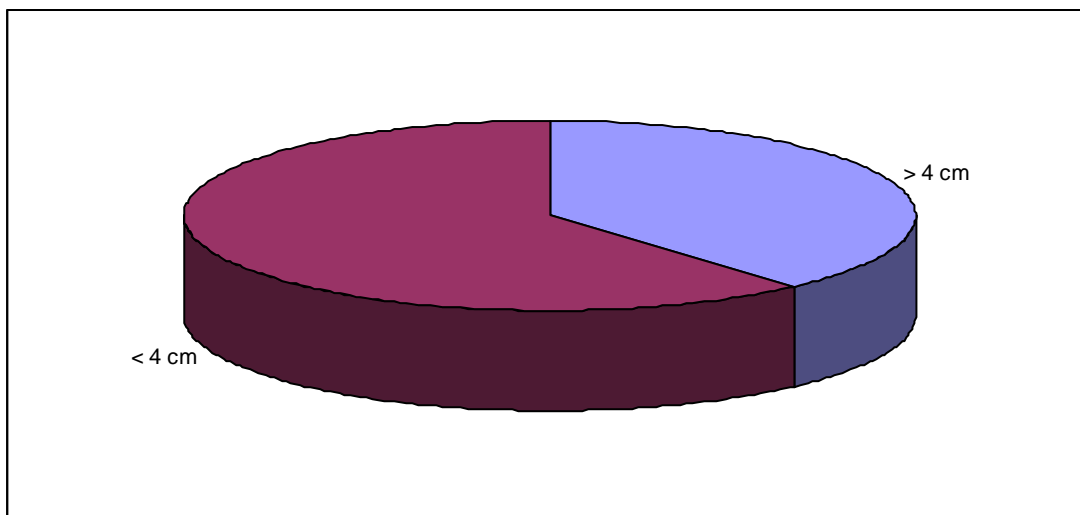
- Table (4) shows that ejection fraction (EF) was normal in 47 patients (90.4%) [$n : \geq 50\%$] & was decreased in 5 patients (9.6 %), valvular lesions were present in 23 patients (44.2 %) & absent in 29 patients (55.8%) , E/A ratio was preserved in 26 patients (50%) & reserved (left ventricular diastolic dysfunction) in 26 patients (50%). The atrial diameter was normal (≤ 4 cm) in 32 patients (61.5 %) & dilated (> 4 cm) in 20 patients (38.5 %), wall motion abnormalities were absent in 40 patients (76.9%) & present in 12 patients (23.1%).



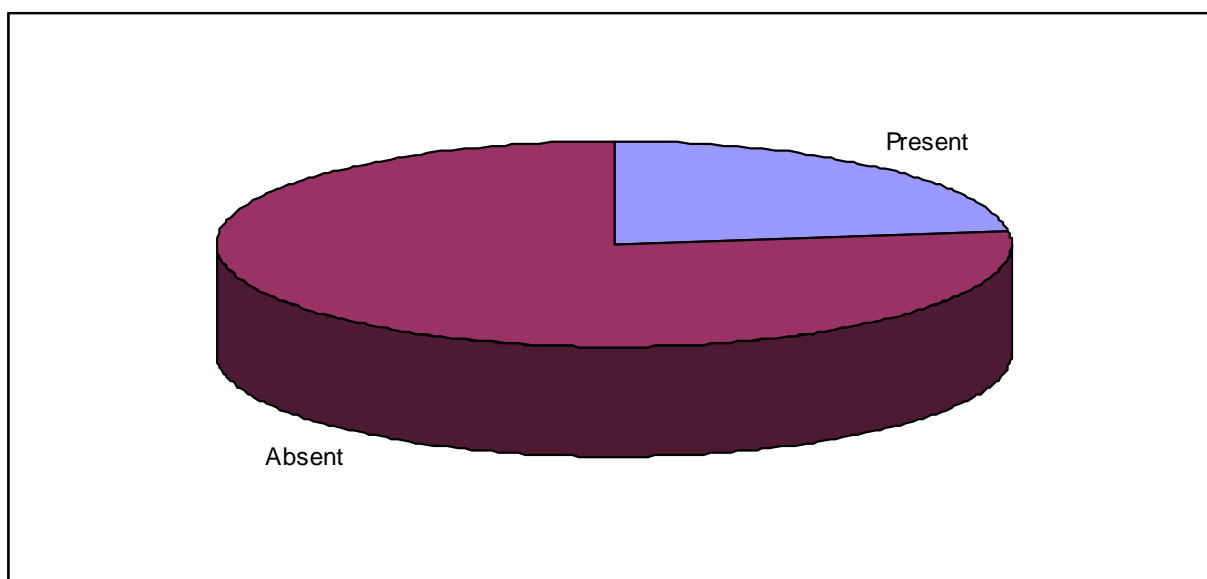
Ejection Fraction in the cardioverted group



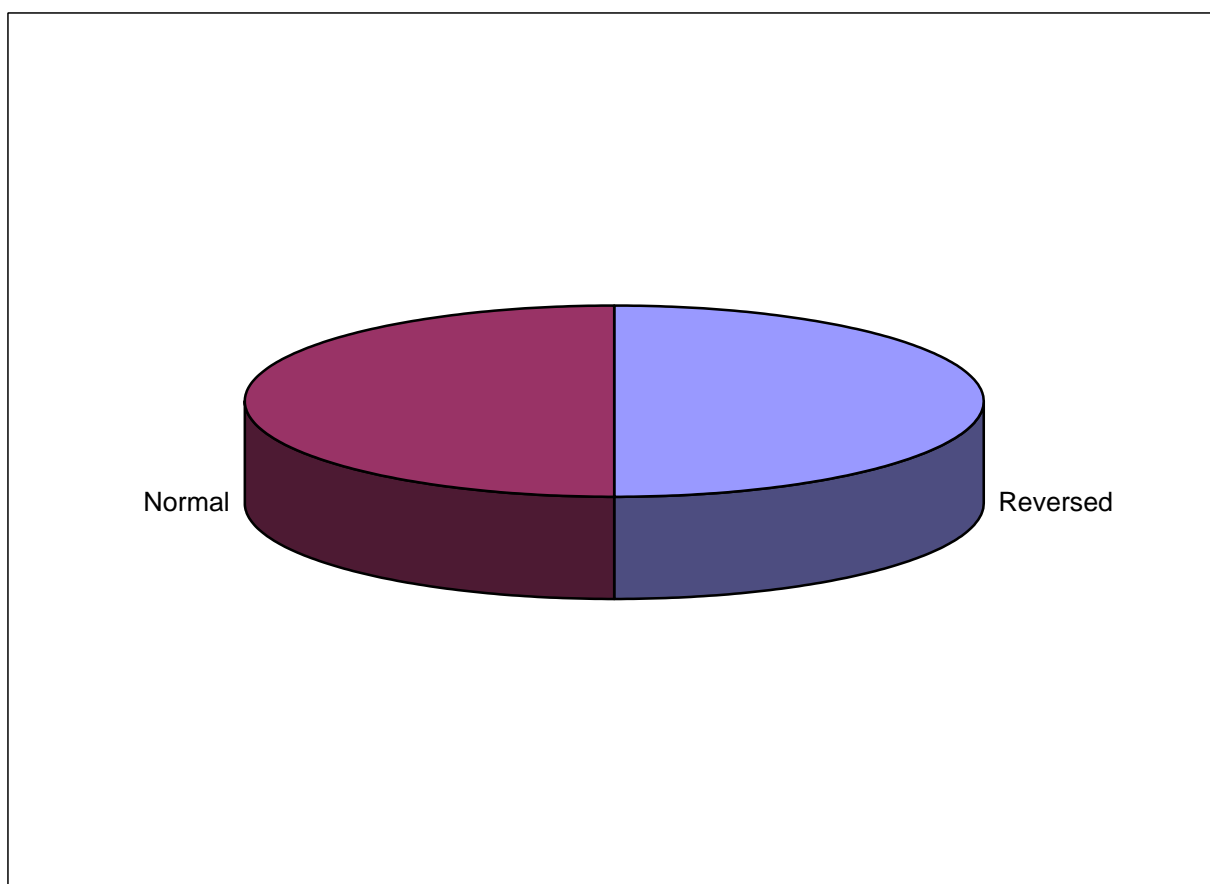
Valvular lesions in the cardioverted group



Left atrial diameter in the cardioverted group



Wall motion abnormalities in the cardioverted group



E/A ratio in the cardioverted group

Table (5) Sinus rhythm achievement in the cardioverted group:-

	No	%
Rytmonorm	12	23.1
Cordarone	26	50.0
Rytmonorm + Cordarone	9	17.3
DC	3	5.8
Isopten	1	1.9
Lanoxin IV	1	1.9
Total	52	100.0

- Table (5) shows that 12 patients (23.1%) were cardioverted by Rytmonorm, 26 patients (50%) were cardioverted by Cordarone, 9 patients (17.3%) were cardioverted by both (Rytmonorm & cordarone), 3 patients (5.8%) were cardioverted by DC shock, one patient (1.9 %) was cardioverted by Isopten & one patient (1.9%) was cardioverted by lanoxin IV.

Table (6) Comparison of demographic characteristics in the cardioverted group

		Rhythmnorm (n=12)	Cordarone (n=26)	Rhythmnorm + Cordarone (n=9)	DC (n=3)		
Age	Range	22.0 - 59.0	29.0 - 80.0	30.0 - 69.0	26.0 - 63.0	One way ANOVA	
	Mean \pm SD	42.363 \pm 11.672	55.000 \pm 15.753	46.222 \pm 14.515	49.666 \pm 20.550	F	P
						2.10	0.11
Sex	Male	7 (58.3 %)	13 (50.0 %)	5 (55.6 %)	1 (33.3 %)	Chi-square test	
	Female	5 (41.7 %)	13 (50.0 %)	4 (44.4 %)	2 (66.7 %)	X ²	p
						0.52	0.92

- From Table (6) shows that the age of the 12 patients who were cardioverted by rytmonorm ranged from 22 to 59 years with mean age 42.363 years ± 11.672 , 7 of those patients (58.3%) were males & 5 (41.7%) were females, The age of the 26 patients cardioverted by cordarone ranged from 29 to 80 years with mean age 55 years ± 15.753 , 13 of those patients (50.0%) were males & 13 patients (50.0%) were females. In the 9 patients cardioverted by both (Rytmonorm & Cordarone) their age ranged from 30 to 69 years with mean age of 46.222 years ± 14.515 . Five of those patients (55.6%) were males & 4 (44.4%) were females. The age of the 3 patients Cardioverted by DC shock ranged from 26 to 63 years with mean age of 49.666 ± 20.550 years, one of patients (33.3%) was male & 2 of patients (66.7%) were females.
- *P values were neither significant in age nor in sex in the 4 different groups cardioverted by Rytmonorm, cordarone, both Rytmonorm & cordarone or DC shock.*

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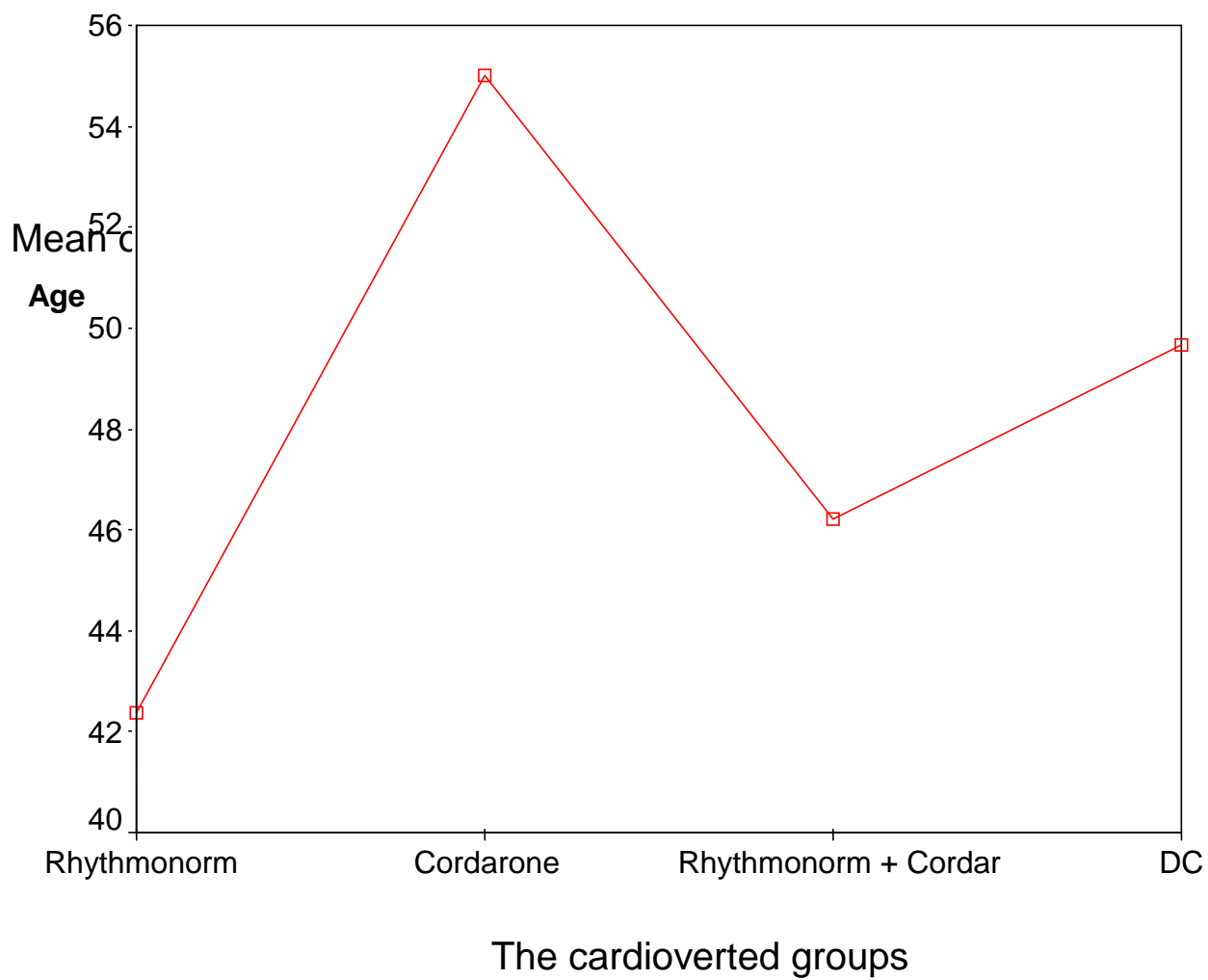


Table (7) Comparison of risk factors distribution in the cardioverted groups

	Rytmonorm (n=12)	Cordarone (n=26)	Rytmonorm + Cordarone (n=9)	DC (n=3)	Chi-square test	
					X²	p
Smoking	3 (25.0 %)	9 (34.6 %)	4 (44.4 %)	1 (33.3 %)	0.65	0.89
Hypertension	6 (50.0 %)	13 (50.0 %)	5 (55.6 %)	1 (33.3 %)	0.52	0.92
IHD	1 (8.3 %)	9 (34.6 %)	-	1 (33.3 %)	6.15	0.11
COPD	-	2 (7.7 %)	1 (11.1 %)	-	1.85	0.61
Thyrotoxicosis	-	-	1 (11.1 %)	-	4.53	0.21
H.F & C.M	-	5 (19.5%)	-	-		

- Table (7) shows that among the 12 patients who were cardioverted by rytmonorm there were 3 patients (25%) cigarette smokers ,6 patients (50%) were hypertensive & one of patients (8.37%) was ischemic. Among the 26 patients who were cardioverted by cordarone there were 9 patients (34.6%) cigarette smokers , 13 patients (50%) were hypertensive , 9 patients (34.6%) were ischemic , 5 patients (19.2%) were in Heart failure & cardiomyopathy & 2 patients (7.7%) had COPD. Among the 9 patients cardioverted by both (rytmonorm & cordarone) there were 4 patients (44.4%) cigarette smokers , 5 patients (55.6 %) were hypertensive , one patient (11.1%) had COPD & one patient (11.1%) was thyrotoxic. Among the 3 patients cardioverted by DC shock there was one patient (33.3 %) cigarette smoker , one patients (33.3 %) was hypertensive & one patient (33.3 %) was ischemic.
- *P values were insignificant for the risk factors distribution in the 4 groups*

Table (8) Comparison of laboratory investigations in the cardioverted groups

	Rytmonorm (n=12)	Cordarone (n=26)	Rytmonorm Cordarone (n=9) +	DC (n=3)	One way ANOVA	
					F	P
Serum creatinine	0.911 ± 0.240	1.458 ± 0.989	0.737 ± 0.220	1.756 ± 1.284	0.85	0.48
Total Serum bilirubin	0.544 ± 0.267	0.763 ± 0.416	0.533 ± 0.285	1.336 ± 0.967	1.12	0.22
ALT	22.909 ± 11.987	40.307 ± 22.612	19.000 ± 4.582	59.666 ± 61.158	0.97	0.19
AST	21.727 ± 7.349	43.538 ± 21.615	23.888 ± 6.790	21.400 ± 19.449	1.08	0.11
RBG	83.545 ± 24.541	165.307 ± 125.707	108.444 ± 34.073	153.666 ± 72.665	2.15	0.11
					Chi-square test	
					X²	p
CRP +ve	4 (33.3 %)	19 (73.1 %)	5 (55.6 %)	3 (100.0 %)	6.47	0.09
CBC (abnormal)	9 (81.8 %)	16 (51.5 %)	9 (100.0 %)	1 (33.3 %)	7.56	0.056

- Table (8) shows that among the 12 patients cardioverted by rytmonorm the mean S. creatinine was 0.911 mg/dl \pm 0.240, mean total S. bilirubin was 0.544 mg/dl \pm 0.267, mean ALT was 22.909 U/I \pm 11.987, mean AST was 21.727 U/I \pm 7.349 & the mean RBG was 83.545 mg/dl \pm 24.541, 4 patients (33.3 %) had a positive (elevated) CRP. Among the 26 patients Cardioverted by cordarone, the mean S. creatinin was 1.458 mg/dl \pm 0.989, the mean total S. bilirubin was 0.763 mg/dl \pm 0.416, the mean ALT was 40.307 U/I \pm 22.612, the mean AST was 43.538 U/I \pm 21.615, the mean RBG was 165.307 mg/dl \pm 125.767, 19 patients (73.1%) had a positive (elevated) CRP. Among the 19 patients cardioverted by both rytmonorm & cordarone. The mean S. creatinine was 0.737 mg/dl \pm 0.220, the mean total S. bilirubin was 0.533 mg/dl \pm 0.285, the mean ALT was 19.0 U/I \pm 4.582.

The mean AST was 23.888 U/I \pm 6.790, the mean RBG was 108.444 mg/dl \pm 34.073, 5 patients (55.61) had a positive (elevated) CRP. Among the 3 patients cardioverted by DC shock, the mean S. creatinin was 1.756 mg/dl \pm 1.284. The mean total S. bilirubin was 1.336 mg/dl \pm 0.967. The mean ALT was 59.666 U/I \pm 61.158, the mean AST was 21.400 U/I \pm 19.449, the Mean RBG was 153.666 mg/dl with standard deviation \pm 72.665. Three of patients (100.0%) had a positive (elevated) CRP.

P values were insignificant in laboratory investigations comparison in studied groups.

Table (9) Comparison of Echocardiographic findings in the cardioverted groups

		Rytmonorm (n=12)	Cordarone (n=26)	Rytmonorm + Cordarone (n=9)	DC (n=3)	Chi-square test	
						X²	p
Ejection fraction	≤ 50 %	-	5 (13.2 %)	-	-	8.45	0.037
	> 50 %	12 (100.0 %)	21 (90.8 %)	9 (100.0%)	3 (100.0%)		
Valvular lesions	Present	3 (25.0 %)	14 (53.8 %)	3 (33.3 %)	2 (66.7 %)	3.28	0.35
	Absent	9 (75.0 %)	12 (46.2 %)	6 (66.7 %)	1 (33.3 %)		
E/A Ratio	Reversed	4 (33.3 %)	14 (53.8 %)	6 (66.7 %)	1 (33.3 %)	2.28	0.52
	Preserved	8 (66.7 %)	12 (46.2 %)	3 (33.3 %)	2 (66.7 %)		
Left atrium	> 4 cm (dilated)	1 (8.3 %)	12 (46.2 %)	1 (11.1 %)	1 (33.3 %)	7.52	0.057
	≤ 4 cm (normal)	11 (91.7 %)	14 (53.8 %)	8 (98.9 %)	2 (66.7 %)		
Wall motion abnormalities	Present	-	9 (34.6 %)	2 (22.2%)	1 (33.3 %)	8.66	0.034
	Absent	12 (100.0 %)	17 (65.4 %)	7 (77.8 %)	2 (66.7 %)		

