Results

Base line characteristic of patients:-

The present study included 200 patients, 83 (41.5%) females and 117 (58.5%) males, their age range from 20 to 87 years with mean age of 55.5 years.

Table (8):-

Patients' distribution as regard the type and the rate of AF:-

One hundred and eighty six (93%) patients have chronic (permanent) AF and 14(7%) patients have paroxysmal recurrent AF.

Forty nine (24.5%) patients presented by rapid AF, 4 (2.5%) presented by slow AF and 146 (73%) patients have controlled AF.

Table (8): Patients' distribution as regard the type and the rate of AF:-

	Type		Heart rate		
	permanent	paroxysmal	rapid	controlled	slow
Number	186	14	49	146	5
%	93	7	24.5	73	2.5

According to current guidelines, all of our patients were eligible for oral anti coagulation as they have either one high risk factor for stroke or more than one moderate risk factor for stroke.

Table (9) and figure (2):-

Risk factors of stroke in AF patients:-

(1) High risk factors of stroke in our study were as follow:-

Thirty nine (19.5%) patients have rheumatic mitral stenosis, 25 (12.5%) have prosthetic valves, 42 (21%) patients have previous ischemic stroke, 5

(2.5%) patients have recurrent transient ischemic attacks(TIA) and 1 (0.5%) patient has lower limb ischemia due to peripheral embolization.

(2) Moderate risk factors of stroke in our study were as follow:-

Twenty (10%) patients older than 75 years, 80 (40%) patients were hypertensive, 70 (35%) patients were diabetic, 54 (27%) patients have heart failure, 43 (21.5%) patients have ejection fraction (EF) lower than or equals 35%, 16 (8%) patients have renal impairment and finally 117 (58.5%) patients have ischemic heart disease.

Table (9): frequency distribution of risk factors.

	Variable	No.	%
High risk factors	MS	39	19.5
	Prosthetic valve	25	12.5
	Previous stroke	42	21
	TIA	5	2.5
	embolism	1	0.5
Moderate risk factors	Age>75	20	10
	HTN	80	40
	DM	70	35
	HF	54	27
	EF<35	43	21.5
	CAD	117	58.5
	Renal impairment	16	8

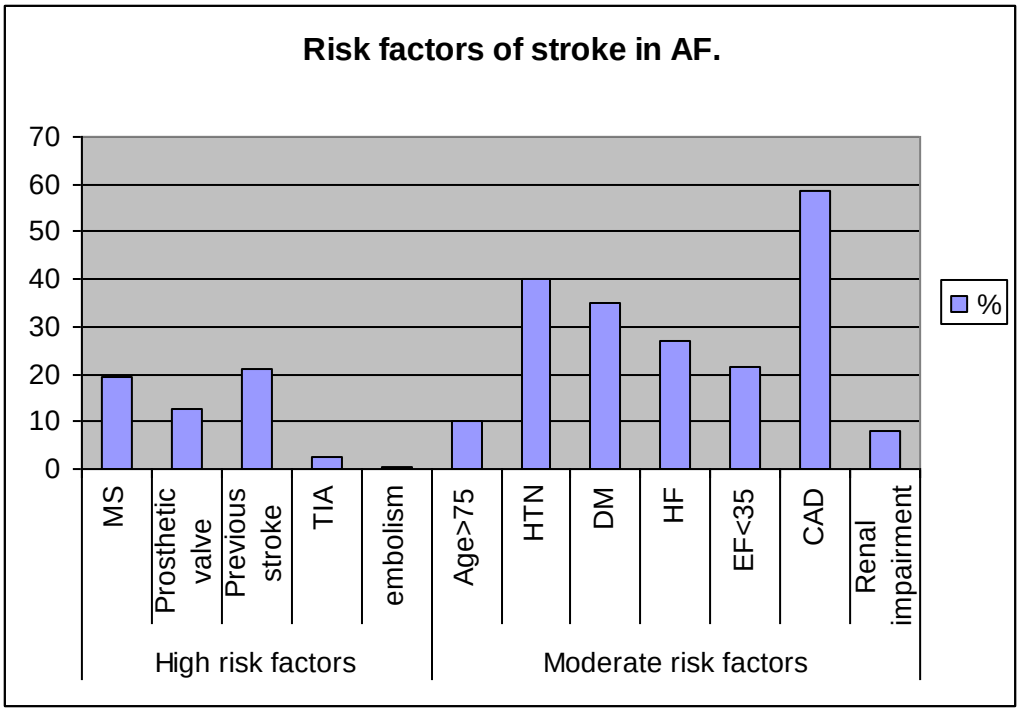

Figure (2): Risk factors of stroke.

Anticoagulation situation: -

According to the use of oral anticoagulation, our patients were classified into two groups:-

1-Group A:-

Patients received oral anticoagulation regularly, they were 76 (38%) patients, in our study group A was divided into:-

Group A1 :- (controlled INR) they were 28 patients (36.8%) from group A (14% from the total study).

Group A2 :-(non controlled INR) they were 48 patients (63.2%) from group A (24% from total study).

2-Group B:-

Patients not received oral anticoagulation, they were 124 (62%) patients, and their mean age was 61.21 years.

Table (10) and figure (3):-

Group B included 124 patients divided into three sectors, the first of them was 89(44.5%) patients not received oral anticoagulation at all without clear contraindications, 12(6%) patients not received warfarin due to high bleeding risk, but 23 patients (11.5%) discontinue warfarin therapy due to high cost of laboratory test, the occurrence of bleeding complications or due to social problems and lake of awareness of the importance of anticoagulation therapy and follow up.

Table (10):- patients distribution in group B.

Group B	**Not received warfarin at all (without contraindications)**	**Not received warfarin due to high bleeding risk**	Discontinue warfarin intake	total
No	89	12	23	124
%	44.5	6	11.5	62

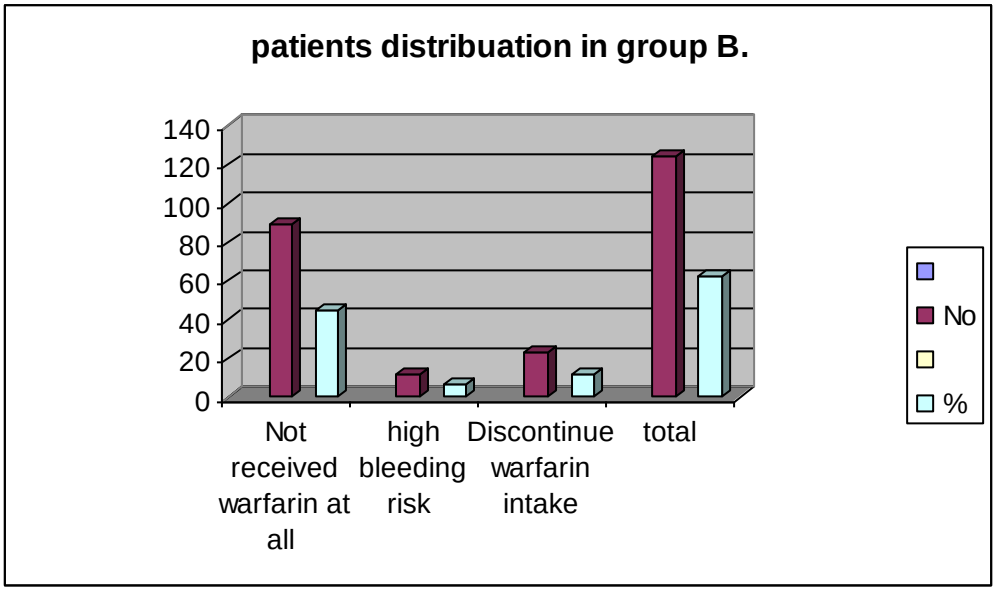

Figure (3): patients' distribution in group B.

Table 11 and figure 4:-

Comparison between group A and group B as regard sex: - **-**

Eighty three female patients, 33 (39.5%) of them whom received oral anticoagulation. On the other hand 117 male patients, 43 (36.8%) whom received oral anticoagulation.

There was no significant statistical difference between group A and group B as regard sex.

Table (11): comparison between group A and B as regards sex.

Variable / Group		Sex			X^2	p
		F	M	Total		
A	No	33	43	76	0.1	>0.05 NS
	%	39.8%	36.8%	38.0%		
B	No	50	74	124		
	%	60.2%	63.2%	62.0%		
Total	No	83	117	200		
	%	100.0%	100.0%	100.0%		

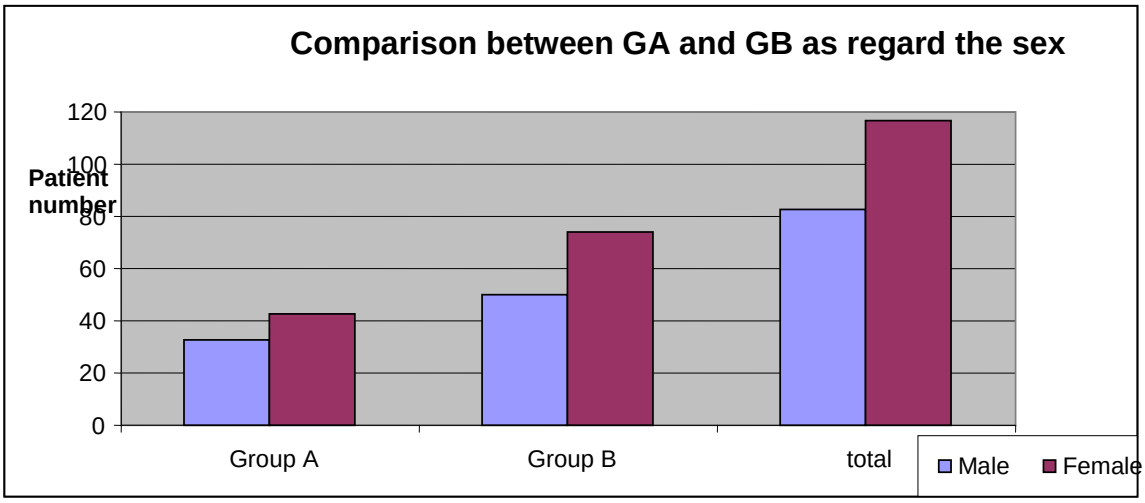

Figure (4):- comparison between group A and B as regards sex.

Table 12 and figure 5:-

Comparison between group A and group B as regard Age: -

Twenty patients their age equals or more than 75years, 1 (5%) of them received oral anticoagulation and 19 (95%) patients not received oral anticoagulation.

Forty seven patients their age range from 65 years to 74 years, 8 (17%) of them received oral anticoagulation and 39 (83%) patients not received oral anticoagulation.

Fifty five patients their age range from 55 years to 64 years, 21 (38.2%) of them received oral anticoagulation and 34 (61.8%) patients not received oral anticoagulation.

Seventy eight patients their age less than 55 years, 46 (59%) of them received oral anticoagulation and 32 (41%) patients not received oral anticoagulation.

The mean age of group A is (50.07±12.1) years and the mean age of group B is (63.3±12.4) years.

So, 59% of patients younger than 55y received oral anticoagulation while 5% of patients older than 75y not received oral anticoagulation, the difference were statistically significant.

Table (12): comparison between group A and B as regards age.

Variable / Group		Age					X^2	p
		>75	65-74	55-64	<55	Total		
A	No	1	8	21	46	76	32.6	**<0.05*** S
	%	5	17	38.2	59	38		
B	No	19	39	34	32	124		
	%	95	83	61.8	41	62		
Total	No	20	47	55	78	200		
	%	100	100	100	100	100		

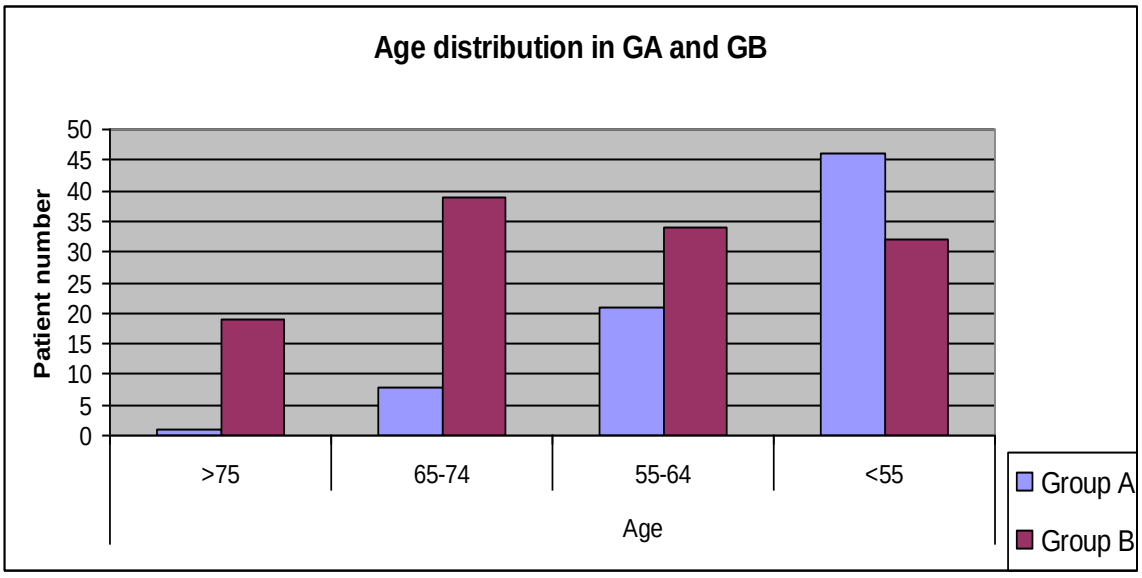

Figure (5):-comparison between group A and B as regards age.

Table (13): comparison between group A & B as regards the mean age.

	group A	group B	t	p
mean±SD	50.07±12.1	63.3±12.4	7.7	<0.05*

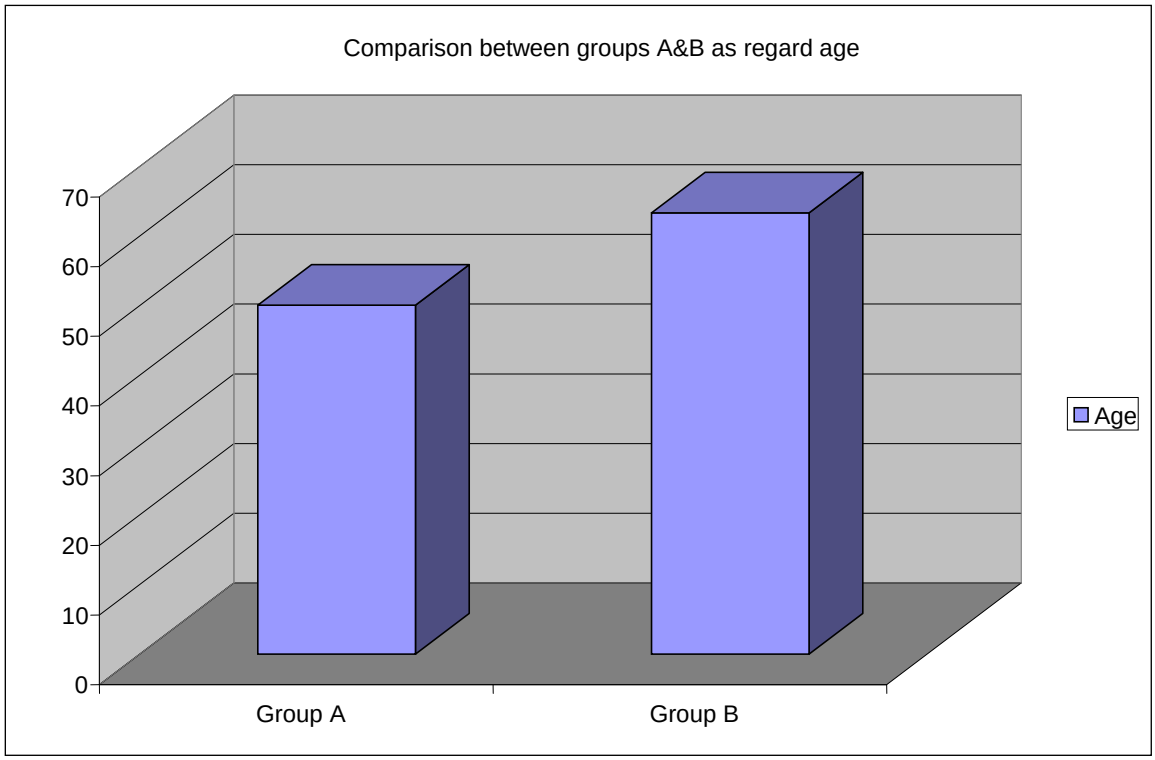

Figure (6):-comparison between group A and B as regards the mean age.

Table 14 and figure 7:-

Comparison between group A and group B as regard the residence:

One hundred and thirty five patients lives in rural areas, 44 (32.8%) of them received oral anticoagulation and 91 (67.2%) patients not received oral anticoagulation.

On the other hand, 65 patients lives in urban areas, 32 (48.5%) of them received oral anticoagulation and 33 (51.5%) patients not received oral anticoagulation.

So as regard the residence 32.8% patients whose lives in rural areas received oral anticoagulation compared with 48.5% of whose lives in urban areas, the difference was statistically significant.

Table (14): comparison between group A and B as regards the residence.

Variable / Group		Residence			X^2	p
		Rural	Urban	Total		
A	No.	44	32	76	3.9	<0.05*
	%	32.8%	48.5%	38.0%		
B	No	91	33	124		
	%	67.2%	51.5%	62.0%		
Total	No	135	65	200		
	%	100.0%	100.0%	100.0%		

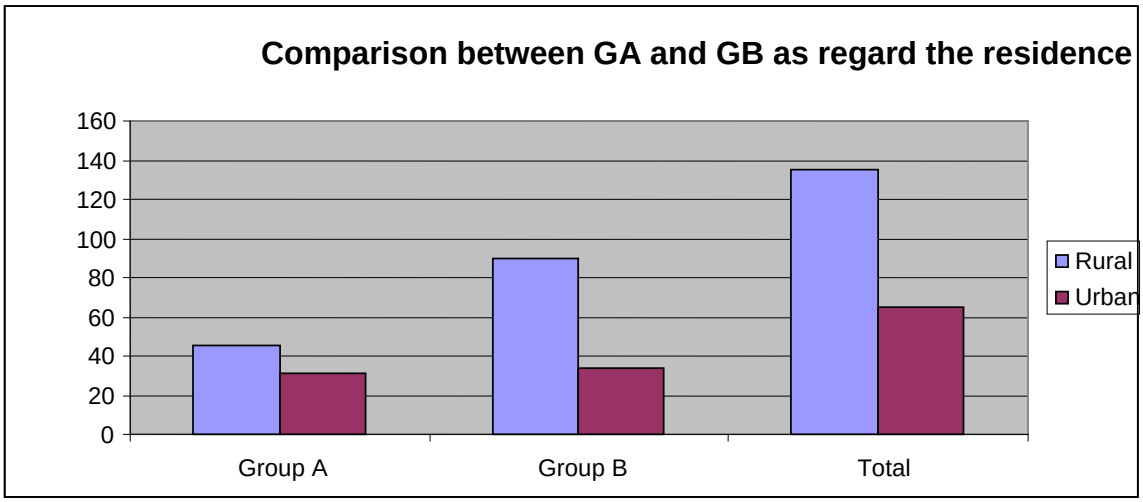

Figure (7): comparison between group A and B as regards the residence.

Table 15 and figure 8 :-

Comparison between group A and group B as regard the martial state:-

Twelve patients were single, 8 (66.7%) of them received oral anticoagulation and 4 (33.3%) patients not received oral anticoagulation.

One hundred and fifty five patients were married, 65 (41.95%) of them received oral anticoagulation and 90 (58%) patients not received oral anticoagulation.

Twenty six patients were widow, 3 (11.5%) of them received oral anticoagulation and 23 (88.5%) patients not received oral anticoagulation.

Seven patients were widow and lives alone, all of them (100%) not received oral anticoagulation.

As regard the marital state 66.7% of single patients and 41.95% of married patients received oral anticoagulation compared with 11.5% of widow patients received oral anticoagulation, so the difference was statistically significant.

Table (15): comparison between group A and B as regards the marital state.

Variable / Group		Marital state					X^2	p
		Single	Married	Widow	alone	Total		
A	No	8	65	3	0	76	17.2	<0.05*
	%	66.7	41.9	11.5	0	38		
B	No	4	90	23	7	124		
	%	33.3	58.1	88.5	100	62		
Total	No	12	155	26	7	200		
	%	100	100	100	100	100		

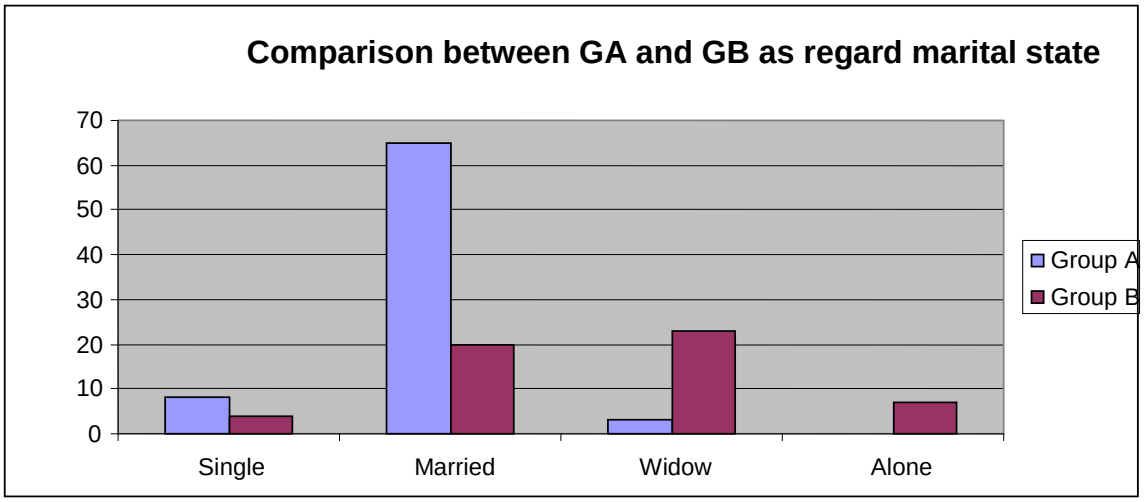

Figure (8): comparison between group A and B as regards the marital state.

Table 16 and figure 9 :-

Comparison between group A and group B as regard the occupation:-

Thirty three patients were retired, 8 (24.2%) of them received oral anticoagulation and 25 (74.85) patients not received oral anticoagulation.

Sixty two patients were house wife, 22 (35.2%) of them received oral anticoagulation and 40 (46.5%) patients not received oral anticoagulation.

Eleven patients have no work, 3 (27.35) of them received oral anticoagulation and 8 (72.7%) patients not received oral anticoagulation.

Fifty nine patients were employee, 33 (55.9%) of them received oral anticoagulation and 26 (44.1%) patients not received oral anticoagulation. twenty nine patients were workers, 5 (17.2%) of them received oral anticoagulation and 24 (72.8%) patients not received oral anticoagulation.

Six patients were professionals, 5 (83.4%) of them received oral anticoagulation and one (16.6%) patient not received oral anticoagulation.

As regard the occupation 83.4% of professionals and 55.9% of employee received oral anticoagulation compared with 24.2% of retired patients and 17.2% of workers received oral anticoagulation, the difference was statistically significant.

Table (16): comparison between group A&B as regard the occupation.

Variable / Group		Not work			work			X^2	p
		Retired	**Hose wife**	**No work**	**Employee**	**Worker**	**professional**		
A	**No**	8	22	3	33	5	5	**23**	**<0.05***
	%	24.2	35.5	27.3	55.9	17.2	83.4		
B	**No**	25	40	8	26	24	1		
	%	75.8	46.5	72.7	44.1	72.8	16.6		
total		33	62	11	59	29	6		

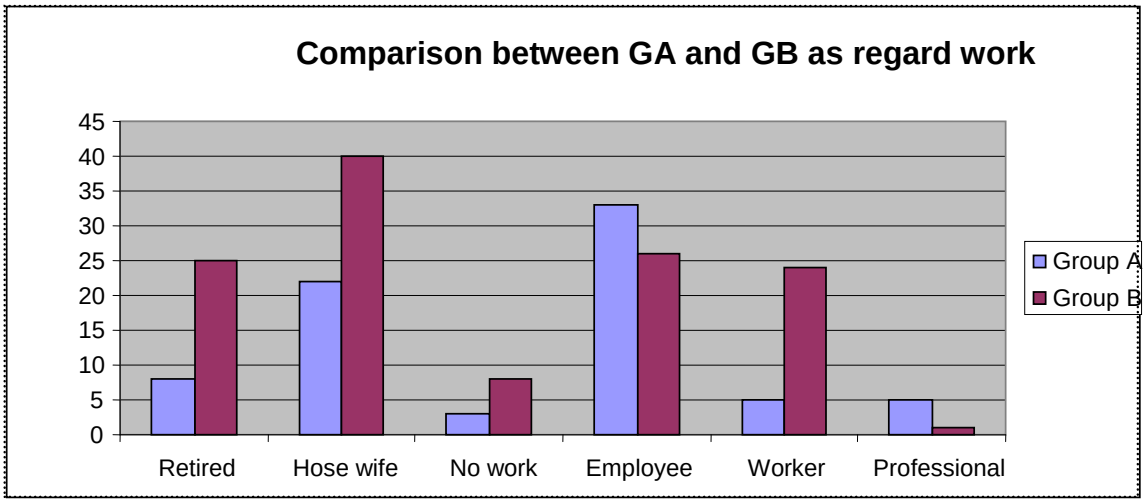

Figure (9): comparison between groups A&B as regard the occupation.

Table 17 and figure 10:-

Comparison between group A and group B as regard smoking:-

Forty five patients were chronic smokers, 9(20%) of them received oral anticoagulation and 36(80%) not received oral anticoagulation.

On the other hand, 67(43.2%) non smoker patients received oral anticoagulation.

There was significant statistical difference between group A and group B as regard smokers were more in group B.

Table (17): comparison between group A and B as regards smoking:

variable / Group		Smoking +	Smoking -	Smoking Total	X^2	p
A	No	9	67	76	7.1	<0.05*
	%	20.0%	43.2%	38.0%		
B	No	36	88	124		
	%	80.0%	56.8%	62.0%		
Total	No	45	155	200		
	%	100.0%	100.0%	100.0%		

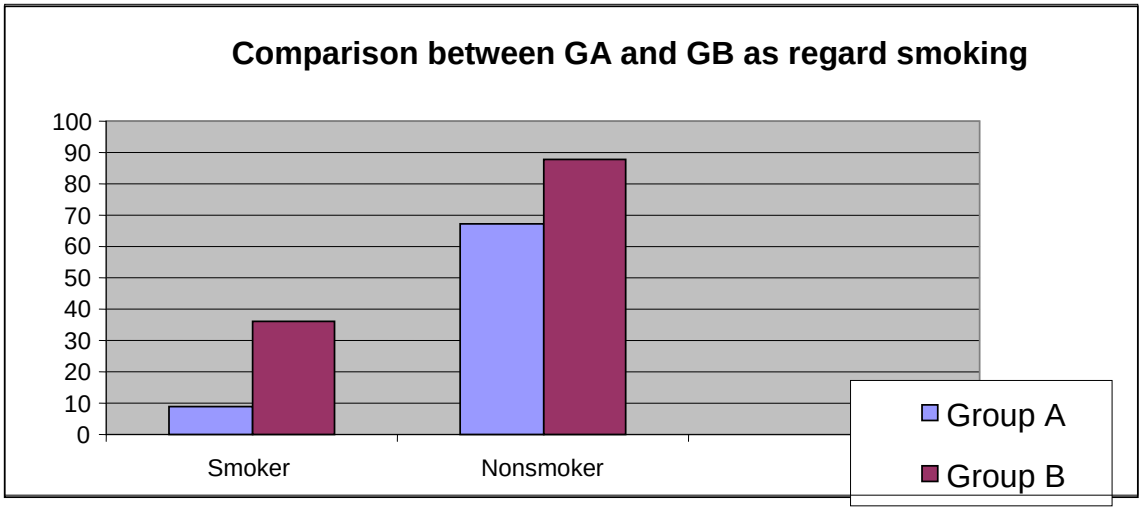

Figure (10): comparison between group A and B as regards smoking.

Table 18 and figure 11:-

Comparison between group A and group B as regard the risk factors: -

Eighty patients were hypertensive, 15 (18.8%) of them received oral antico-agulation and 65 (81.2%) patients not received oral anticoagulation, the difference was statistically significant.

Seventy patients were diabetic, 15 (21.4%) of them received oral anticoagulation and 55 (78.9%) patients not received oral anticoagulation, the difference was statistically significant.

One hundred and seventeen patients have ischemic heart disease, 27 (32.1%) of them received oral anticoagulation and 90 (76.9%) patients not received oral anticoagulation, the difference was statistically significant.

There were seventy eight patients have rheumatic heart disease, 59 (75.6%) of them received oral anticoagulation and 19 (24.4%) patients not received oral anticoagulation, the difference was statistically significant.

Fifty four patients suffered from heart failure, 21 (38.9%) of them received oral anticoagulation and 33(61.1%) patients not received oral anticoagulation, the difference was not statistically significant.

There were three patients have aortic prosthesis, all of them received oral anticoagulation.

Nineteen patients have mitral prosthesis, 17(89.5%) of them received oral anticoagulation and 2 (10.5%) patients not received oral anticoagulation.

Three patients have both mitral and aortic prostheses; all of them received oral anticoagulation, the difference was not statistically significant as regard the type of prostheses.

So, twenty five patients have prosthetic valves, 23 (92%) of them received oral anticoagulation and 2 (8%) patients not received oral anticoagulation, the difference was statistically significant as regard the cardiac prostheses.

Table (18): comparison between group A and B as regards HTN,DM, IHD, RHD, HF& Prosthetic valves:-

Group / Risk factors		Group A		Group B		Total	X^2	p
		No.	%	No.	%			
HTN	+	15	18.8%	65	81.2%	80	19.6	<0.05*
	-	61	50.8%	59	49.2%	120		
DM	+	15	21.4%	55	78.6%	70		
	-	61	46.9%	69	53.1%	130	11.5	<0.05*
IHD	+	27	23.1%	90	76.9%	117	25.1	<0.05*
	-	49	59.0%	34	41.0%	83		
RHD	+	59	75.6%	19	24.4%	78	74.3	<0.05*
	-	17	13.9%	105	86.1%	122		
HF	+	21	38.9	33	61.1	54	0.1	>0.05
	-	55	37.7	91	62.3	146		
Type of Prosthetic valves	aortic	3	100	0	0	3	0.7	>0.05
	mitral	17	89.5	2	10.5	19		
	both	3	100	0	0	3		
Prosthetic valves(total)	+	23	92	2	8	25	32.8	<0.05*
	-	53	30.3	122	69.7	175		

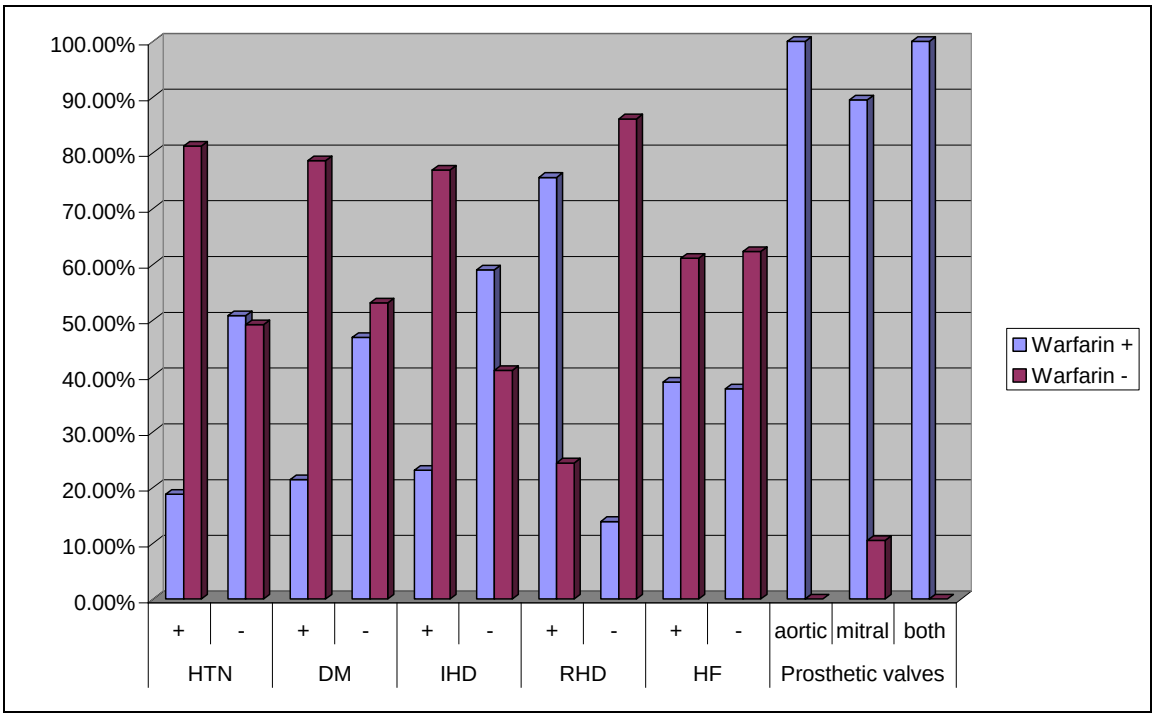

Figure (11): comparison between group A and B as regards the risk factors.

Another antithrombtic therapy (Antiplatlets):-

Table 19 and figure 12 :-

Comparison between group A and group B as regard antiplatlets:

One hundred and fourteen patients received antiplatlets, 23(20.2%) of them received oral anticoagulation and 91(79.8%) patients not received oral anticoagulation.

There was significant statistical difference between group A and group B as regard antiplatletes where most of group B received antiplatlets.

Table (19): comparison between group A and B as regards antiplateletes.

variable / Group		Antiplatelet			X^2	p
		+	-	Total		
A	No	23	53	76	34.1	<0.05*
	%	20.2%	61.6%	38.0%		
B	No	91	33	124		
	%	79.8%	38.4%	62.0%		
Total	No	114	86	200		
	%	100.0%	100.0%	100.0%		

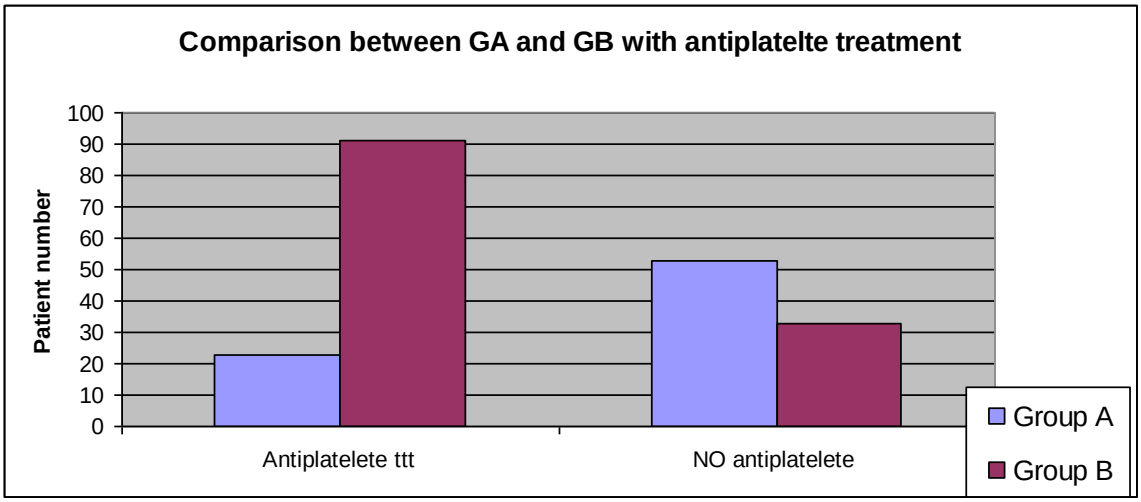

Figure (12): comparison between group A and B as regards antiplateletes.

Echocardiographic finding:-

Table 20 and figure 13:-

Comparison between group A and group B as regard echocardiographic finding:-

The mean value of LAD was (5.09 cm) in group A while it was (4.4 cm) in group B, the mean value of LVEDD was (6.534 cm) in group A while it was (6.089 cm) in group B, and the mean value of EF was (48.9 %) in group A while it was (53.4 %) in group B.

The difference was statistically significant (p value<0.05).

Table (20): comparison between group A and group B as regards echocardiographic finding.

Echo	Group	No	Mean	Std. Deviation	t	p
LAD	A	76	5.092	.7142	6.6	<0.05*
	B	124	4.463	.6149		
LVEDD	A	76	6.534	1.0710	2.9	<0.05*
	B	124	6.089	1.0324		
EF %	A	76	48.96	13.336	2.2	<0.05*
	B	124	53.44	14.965		

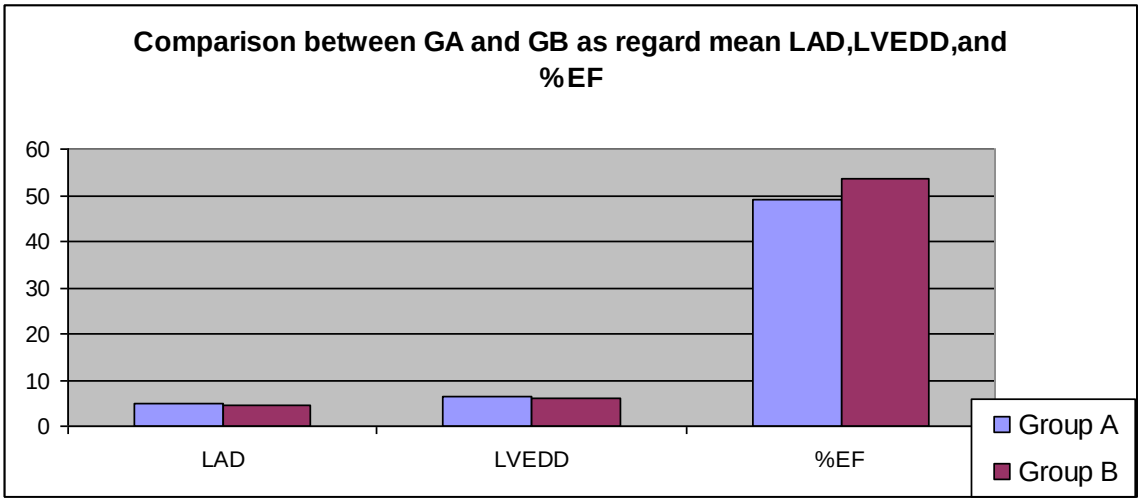

Figure (13): comparison between group A and B as regards echocardiographic finding.

Thromboembolic complications in our study:-

Table 21 and figure 14:-

Comparison between group A and group B as regard thromboembolic complications:-

In group A, six (3%) patients had cerebrovascular stroke (cerebral infarction) and 3 (1.5%) patients had TIA, the total number was 9 (4.5%).

But in group B, 36 (18%) patients had cerebrovascular stroke (cerebral infarction) and 2 (1%) patients had TIA and only one patient (0.5%) had lower limb ischemia due to peripheral embolization, the total number was 39 (19.5%).

Thromboembolic complications in group A were 4.5% compared with 19.5% in group B, the difference was statistically significant (p value<0.05).

Table (21): Comparison between group A and group B as regard Thromboembolic complications:

	Thromboembolic complications in group A				Thromboembolic complications in group B				Z	p
	c. infarction	TIA	L.L ischemia	total	c. infarction	TIA	L.L ischemia	total	3.2	<0.05*
No	6	3	0	9	36	2	1	39		
%	3	1.5	0.0	4.5	18	1	0.5	19.5		

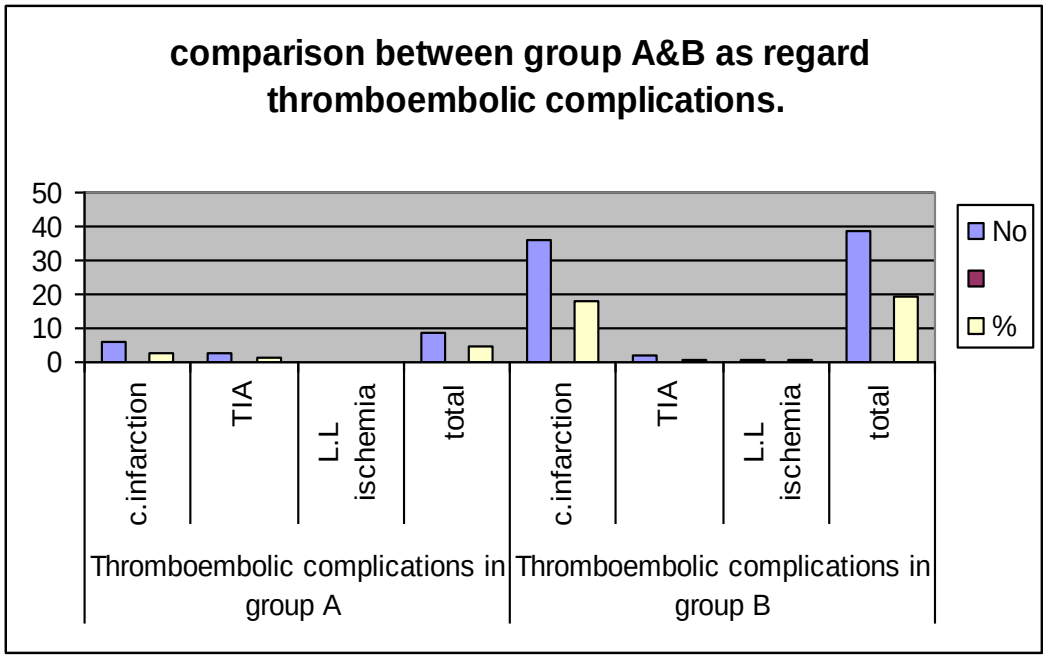

Figure (14): Comparison between group A and B as regard Thromboembolic complications.

Table 22 and figure 15:-

Haemorrhagic complication occurs due to over anticoagulation in group A as follow:-

Eleven patients (10.5%) presented by ecchymosis, 5 patients (2.5%) presented by cerebral haemorrhage and 4 patients (2%) presented by other bleeding manifestations.

The over all percentage was 10% from the total study.

Table (22): Haemorrhagic complications in group A.

Haemorrhagic complication	Frequency	Percent
Cerebral haemorrhage	5	2.5%
Ecchymosis	11	5.5%
others	4	2%
total	20	10%

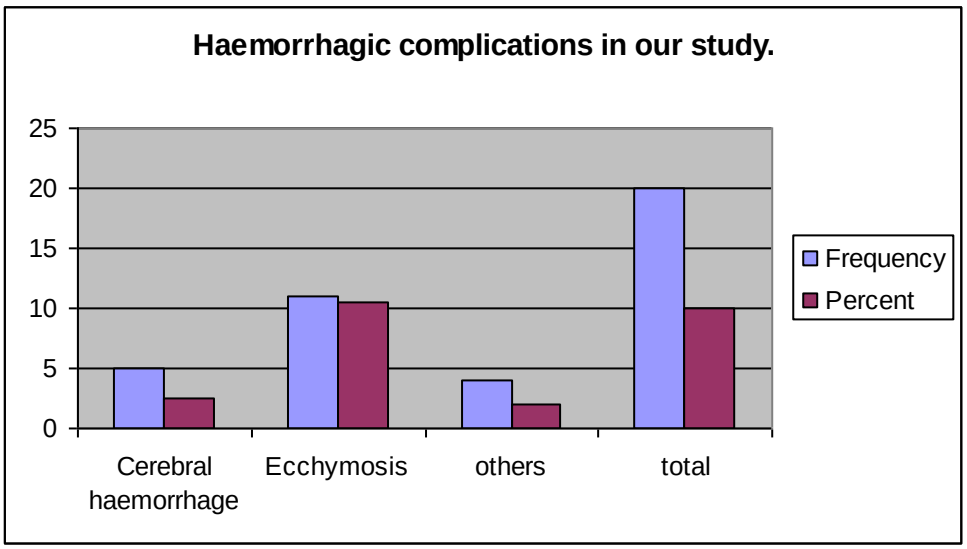

Figure (15): haemorrhagic complications in group A.

Group A were divided into two sub groups:-

Group A1:-

Patients with controlled INR, they were 28 (36.8%) from group A patients (14% from the total study).

Their mean age was (49.73) years, 9 (27.3%) females and 19 (44.2%) males.

Group A2:

Patients with non controlled INR, they were 48 (63.2%) from group A patients, 24 (31.6%) patients were over anticoagulation and the same number and percentage were under anticoagulation.

Their mean age was (49.48) years, 24 (72.7%) females and 24 (55.8%) males.

Table (23): Age and sex in group A1&A2.

Group	The mean age	Male	Female
A1	49.73	19 (44.2%)	9 (27.3%)
A2	49.48	24 (55.8%)	24 (72.7%)

Table 24 & figure16:-

Comparison between group A1 and group A2 as regards HTN,DM, IHD, RHD, HF& Prosthetic valves:-

Four (14.3%) hypertensive patients were in group A1 and 11 (22.9%) patients were in group A2.

Four (14.3%) diabetic patients were in group A1 and 11 (22.9%) patients were in group A2.

Eleven (39.3%) ischemic heart disease patients were in group A1 and 16 (33.3%) patients were in group A2.

Twenty three (82.1%) rheumatic heart disease patients were in group A1 and 36 (75%) patients were in group A2.

Twelve (57.1%) heart failure patients were in group A1 and 9 (19%) patients were in group A2.

Thirteen (46.5%) patients have prosthetic valves were in group A1 and 10 (20.5%) patients were in group A2.

There was no significant statistical difference between group A1 and group A2 as regard HTN, DM, IHD, RHD, but the difference was statistically significant as regard the Prosthetic valves and HF.

Table (24): Comparison between group A1&A2 as regards HTN, DM, IHD, RHD, HF& Prosthetic valves:

Group / Risk factor	A1		A2		Total	X^2	p
	No.	%	No.	%			
HTN	4	14.3	11	22.9	15	0.4	>0.05
DM	4	14.3	11	22.9	15	0.4	>0.05
IHD	11	39.3	16	33.3	27	0.1	>0.05
RHD	23	82.1	36	75	59	0.2	>0.05
HF	12	43	9	19	21	3.3	<0.05*
Prosthetic valves	13	46.5	10	20.5	23	4.8	<0.05*

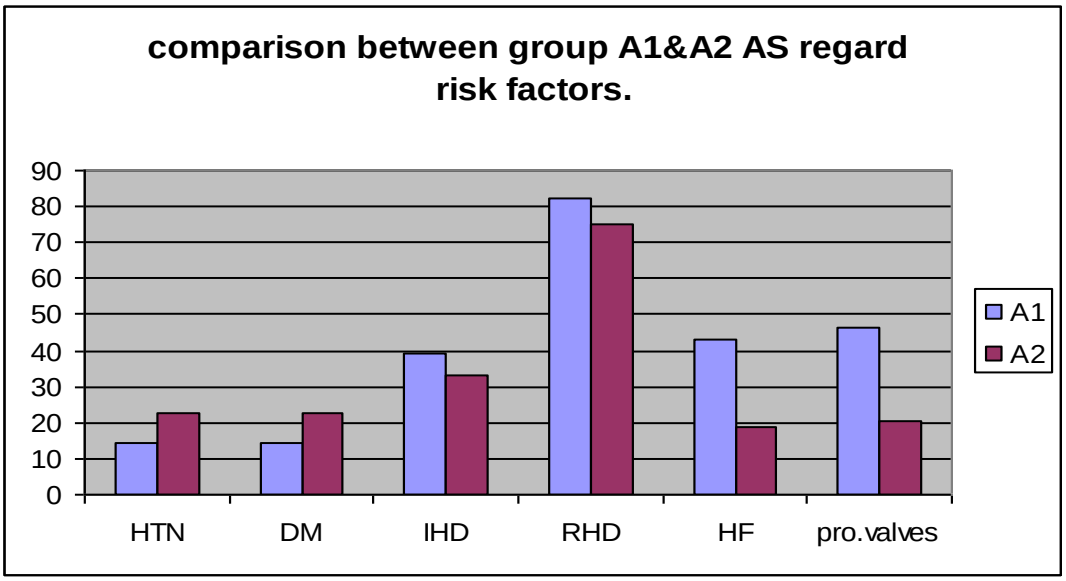

Figure (16): comparison between group A1 and group A2 as regards HTN, DM, IHD, RHD, HF& Prosthetic valves.

Table 24 & figure17:-

Comparison between group A1 and group A2 as regards thromboembolic complications:-

Thromboembolic complications in group A occurred in 9 (4.5%) patients, 3 (1.5%) of them in group A1, 1 (0.5%) patient had cerebral infarction and 2 (1%) patients had TIA, while in group A2, 5(2.5%) patients had cerebral infarction and only 1 (0.5%) patients had TIA, the difference was not statistically significant.

Table (24): Comparison between group A1 and group A2 as regards thromboembolic complications:

	Thromboembolic complications in group A1			Thromboembolic complications in group A2			X^2	p
	c. infarction	TIA	total	c. infarction	TIA	total	0.5	>0.05
No	1	2	3	5	1	6		
%	0.5	1	1.5	2.5	0.5	3		

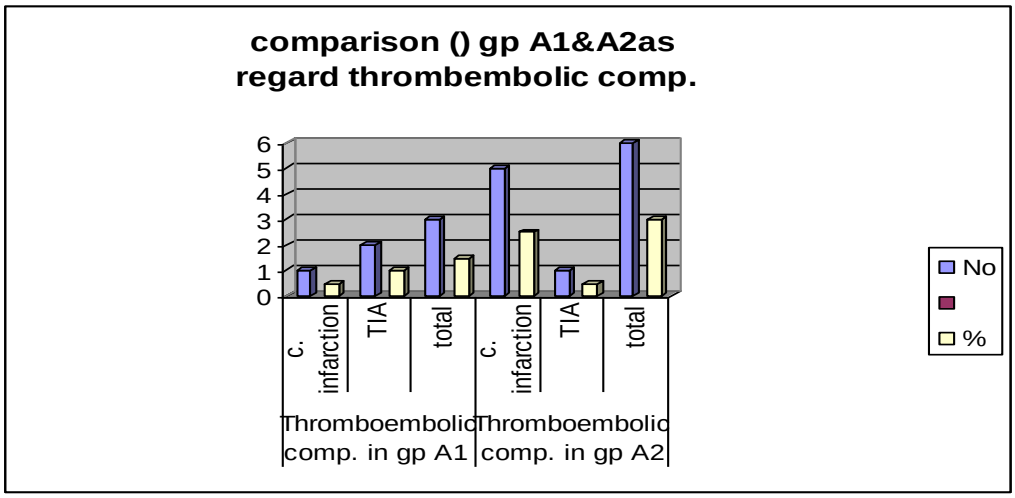

Figure (17): Comparison between group A1 and group A2 as regard thromboembolic complications.