CHAPTER IV

RESULTS

1. Age and sex

Of the 95 patient with unstable angina , 60 case were male and 35 cases were female, ratio of male per female was about 2 : 1 (Table 1)

Table 1. Relationship between sex and outcomes

Sex	outcome		Total
	good (%)	bad (%)	(%)
Male	32 (53.3)	28 (46.7)	60 (63.2)
Female	23 (65.7)	12 (34.3)	35 (36.8)
Total	55 (57.9)	40 (42.1)	95 (100.0)

Chi-Square for male = 0.92854 P = 0.3352

Of 60 male patients, 28 case (46.7%) developed acute MI and/or acute complications (bad outcome) , in compared with 35 female patients, 12(34.3%) revealed bad outcome. (P = NS) Their ages ranged from 33 to 84 year (mean age 59.5 ± 10.4 years). Patients with age-group 51-60 years had the highest incidence of acute MI and/or acute complications (22/40 = 55%), followed by age-group 61-70 years (11/40 = 27.5%). (Table 2)

Table 2. Relationship between age and outcomes.

Group-age (yr)	outcome		Total (%)
	good	bad	
31-40	3	-	3 (3.2)
41-50	10	3	13 (13.7)
51-60	16	22	38 (40.0)
61-70	17	11	28 (29.5)
71-80	9	3	12 (12.0)
81-90	-	1	1 (1.1)
Total	55 57.9%	40 42.1%	95 100%

good outcome = Unstable angina patients who had no any complications, bad outcome = unstable angina patients who developed acute MI and/or acute complications.

2. Previous history of diabetes mellitus

Of 95 patients with ustable angina,20 (21.1%) had previous history of diabetes mellitus. (Table 3)

Table 3. Relationship between previous history of DM and outcomes

History of DM	outcome		Total
	good (%)	bad (%)	(%)
no	46 (61.3)	29 (38.7)	75 (78.9)
yes	9 (45.0)	11 (55.0)	20 (21.1)
Total	55 (57.9)	40 (42.1)	95 (100.0)

Chi-Square = 1.72799 P = 0.1887

Patients with positive history of DM, 55% (11/20) developed bad outcome, in compared with patients who had no history of DM,38.7% (29/75) developed bad outcome. (P=NS)

3. History of hypertension

Of the 95 unstable angina patients studied, 40 (42.1%) had previous history of hypertension.(Table 4)

Table 4. Demonstrated the relationship between patients with history of hypertension and outcomes.

History of hypertension	outcome		Total (%)
	good (%)	bad (%)	
no	33 (60.0)	22 (40.0)	55 (57.9)
yes	22 (55.0)	18 (45.0)	40 (42.1)
Total	55 (57.9)	40 (42.1)	95 (100.0)

Chi-Square = 0.23750 P = 0.6260

Of 40 patients with unstable angina who had positive history of hypertension,45%(18/40) developed bad outcome, compared with 40% (22/55) of negative history of hypertension patients who developed bad outcome. (P = NS)

4. History of myocardial infarction

Of the 95 unstable angina patients, 21 (22.1%) had previous history of MI. (Table 5)

Table 5. Demonstrated the relationship between 21 positive history of MI and bad outcome

History of MI	outcome		Total (%)
	good (%)	bad (%)	
no	48 (64.9)	26 (35.1)	74 (77.9)
yes	7 (33.3)	14 (66.7)	21 (22.1)
Total	55 (57.9)	40 (42.1)	95 (100.0)

Chi-Square = 6.67199 P = 0.0098

Table 5 had shown that 66.7%(14/21) of patients with previous history of MI, developed acute MI and/or acute complications, compared with 35.1% (26/74) of negative history of MI patients who developed bad outcome. ($p < 0.01$)

5. History of angina pectoris.

Table 6. Relationship between outcome and patients with previous history of angina pectoris

History of angina pectoris	outcome		Total (%)
	good (%)	bad (%)	
no	25 (71.4)	10 (28.6)	35 (36.8)
yes	30 (50.0)	30 (50.0)	60 (63.2)
Total	55 (57.9)	40 (42.1)	95 (100.0)

Chi-Square = 4.16396 P = 0.0413

From the table 6, the patients with unstable angina in this study, had a high incidence of previous history of angina (63.2%). Of these 60 patients, 30 (50%) developed bad outcome, compared with 10 (28.6%) of patients, who had no history of angina pectoris, occurred bad outcome. ($p < 0.05$)

6. Cigarette smoking

Table 7. Relationship between the amount of cigarette smoking and bad outcome.

Smoking number/day	Outcome		Total (%)
	Good	bad	
0	31	19	50 (52.6)
< 5	1	1	2 (2.1)
5-10	-	3	3 (3.2)
10-20	9	6	15 (15.8)
> 20	14	11	25 (26.3)
Total	55	40	95 (100)

Chi-Square = 4.58591 , P = 0.3325

Table 8. Relationship between duration of smoking and the bad outcome

Duration of Smoking (yr)	Outcome		Total (%)
	Good	bad	
0	31	19	50 (52.6)
< 1	-	-	-
1-5	-	1	1 (1.1)
5-10	2	1	3 (3.2)
> 10	22	19	41 (43.2)
Total	55	40	95 (100)

Chi-square = 2.11721, P = 0.5484

From table 7 and table 8, 45(47.4%) patients with unstable angina, and smoking habit, both amount and duration of cigarette smoking did not show statistical difference between the patients with cigareette smoking and non-smoker.

7. Cardiac enlargement from chest X-ray

Of the 95 patients with unstable angina, 90(94.7%) had chest x-ray for evaluation of cardiae size. Forty (42.1%) patients had increased cardiothoracic ratio. Of these 40 patients, 21 (52.5%) had bad outcome, compared with 17 (34.0%) with normal heart size developed bad outcome. (P = NS) (Table 9)

Table 9 Relationship between chest x-ray and outcome.

Chest X ray	outcome		Total
	good (%)	bad (%)	(%)
normal	33 (66.0)	17 (34.0)	50 (52.6)
cardiomegaly	19 (47.5)	21 (52.5)	40 (42.1)
not done	3 (60.0)	2 (40.0)	5 (5.3)
Total	55 (57.9)	40 (42.1)	95 (100.0)

Chi-Square = 3.12960 P = 0.2091

8. Patient - Grouping

Table 10 Classification of the 95 patients according to clinical features.

Group	No.	Percent
1 A	13	13.7
1 B	19	20.0
2 A	20	21.0
2 B	43	45.3
Total	95	100

Table 11. Relationship between crescendos resting pain (group 2B) and bad outcome

Group	Outcome		
	Good	bad	
Others	37	15	52
2B	18	25	43
Total	55	40	95

Chi-Square = 8.29, $P < 0.05$

Table 11 showed that the patients with crescendo resting pain had statistical significance (45.3%) for prediction of bad outcome, compared with others groups.

9. Electrocardiographic changes

Table 12 Demonstrated relative risk (RR), chi-square and 95% confidence interval of RR of the ECG changes.

Risk factor	Relative risk (RR)	Chi-square (x^2)	95% CI of RR	Significance
1. Depress-ST (with or without invert-T)	1.57	0.92	0.7-3.5	
2. Invert-T	1.15	0.13	0.6-2.3	
3. Old MI	2.75	5.5	1.2-6.2	* P<0.05
4. Normal	0.56	4.5	0.3-0.9	** P<0.05

ECG of old MI was the only predictor of an unfavourable outcome,but normal ECG had shown a predictor of good outcome ($P < 0.05$). (Table 12)

10 Unfavourable (bad) outcome.

Table 13. Demonstrated predictors of an unfavourble outcome; Age > 50 years,history of MI, history of angina and patients with crescendo resting pain

Risk factor	Relative risk (RR)	Chi-square (X^2)	95% CI of RR	Significance
Age > 50	1.21	4.31	1.01- 1.45	* P<0.05
Sex	1.20	1.39	0.9 - 1.6	
Group 2B	1.91	8.29	1.2 - 3.0	* P<0.05
Hx DM	1.68	1.73	0.8 - 3.7	
Hx HT	1.13	0.24	0.7 - 1.8	
Hx MI	2.75	6.80	1.3 - 5.7	* P = 0.0098
Hx AG	1.4	4.16	1.01- 1.9	* P = 0.0413
Smoking	1.08	0.10	0.7 - 1.7	
Cardiomegaly	1.70	1.89	0.8 - 3.6	

Age over 50 years of old, previous MI, previous angina and crescendo resting pain (group 2B) had statistical significance for prediction of bad outcome in patient with unstable angina

10.1 Acute MI developed, almost always within 24 hours after admission, in 14 (14.74%) patients, nine were Q-infarction and 5 were subendocardial (non-Q) infarction. (Table 14)

Table 14 : Acute myocardial infarction

Acute infarction		case
Q-infarction	- male	8
	- female	1
Non-Q infarction	- male	3
	- female	2
Total		14

Of 5 non-Q infarction patients, the ECG showed ST depression with T-wave invertion in 2 cases, T-wave invertion alone in 2 cases, and 1 case of normal ECG. (Table 15)

Table 15 ECG in non-Q infarction.

Depress ST with invert T wave	2
Inverts T wave	2
Normal	1
Total	5

Of the 14 cases with acute MI, 6 (42.9%) had complications (Table 16)

Table 16 Acute MI with complications

VT with cardiogenic shock	1
SVT with aberration	1
Second degree AV block type I	1
PVC	2
Frequent APC	1
Total	6

10.2. Acute complications in non-MI cases.

Of 79 patients without MI, 26 (27.37%) developed complications within 7 days after hospitalization. (Table 17)

Table 17 Acute complications (in non-MI)

Cardiac arrhythemia	
: PVC	15
: AF	5
: VT	1
Heart block	
: first degree AV block	2
: second degree AV block	1
: third degree AV block	1
: SA block	1
Acute CHF	6
Total	32

Note Some patients developed more than one complication

PVC = Premature ventricular contraction,

AF = Atrial fibrillation,

VT = Ventricular tachycardia,

AV block = Atrio-ventricular block,

SA block = Sino-atrial block