

Results

Clinical and laboratory characteristics among CAD patients

- Number and percentage of dippers and non-dippers and their mean age group and their standard deviation in group I are shown in table (1) and fig. (1). The present data show that of the 65 patients of group I, 43 patients are non-dippers (66.15%), while 22 patients are dippers (33.84%).

Table (1):

	Ischemic-Dippers	Ischemic-Non-Dippers
No. of patients and percentage	22 (33.84%)	43 (66.15%)
Age (mean & S.D.)	51.3 \pm 9.5	53.1 \pm 8.8

Figure (1):

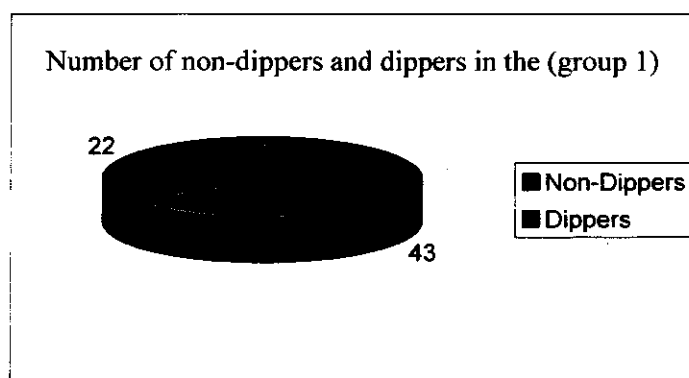
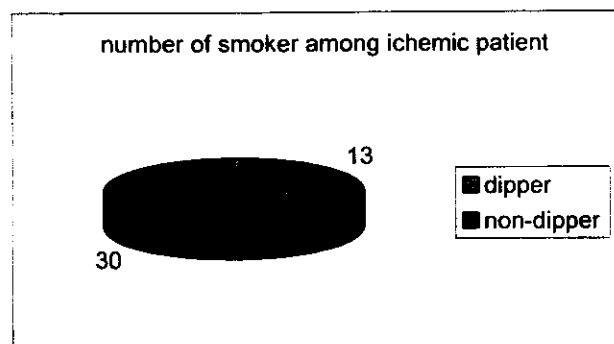


Table (2) Summarized number of smokers among group 1.

- Thirteen patients out of 22 are smokers among dippers while in non-dippers 30 out of 43 are smokers in ischemic as shown in fig. (2).

Table (2):

	Ischemic (65 patients)	
	Dippers	Non dippers
No. of patients	22	43
No. of Smokers	13 (59%)	30 (69%)
P. Value	0.3894 (>0.05)	

Figure (2):

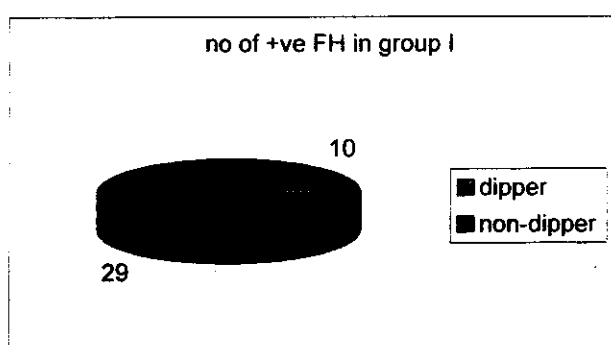
P.value between non-dippers and dippers is 0.3894 which is insignificant.

- **Table (3) and fig. (3)** Show the number and percentage of positive family history (FH) of CAD. Among non-dippers and dippers in ischemic patients (group I).

Table (3):

	Ischemic	
	Dippers	Non-Dippers
No. of cases (total)	22	43
Positive family history (FH)	10	29
Percentage	45.5%	67.4%
P. value	0.0869 (>0.05)	

- Ten patients out of 22 dippers have a positive family history of CAD (45.5 %), while 29 patients out of 43 non-dippers has also a positive family history of CAD (67.4 %) among ischemic patients with P.value between them is 0.0869 which is insignificant as shown in fig. (3).

Figure (3):

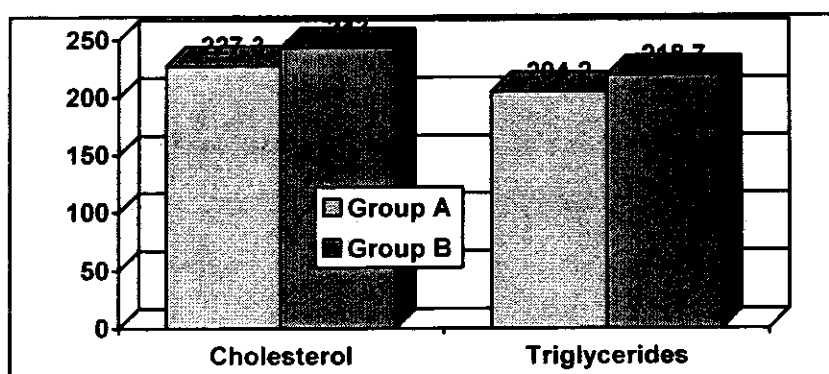
- Laboratory findings in group (1) as regard mean and standard deviation of cholesterol and triglycerides among dippers and non-dippers are listed in table (4&5) and figure (4) a non-significant difference between dippers and non-dippers as P. value is 0.2380 for patients of high trigleseride (TG) level and 0.2665 for those of high cholesterol level.
- Among non dippers the mean cholesterol (Ch) level is 243 and the mean trigleseride (TG) level is 218.
- Among dippers the mean cholesterol (Ch) level is 227 and the mean trigleseride (TG) level is 204.

Table (4):

	Mean CH. Level	S.D.	P. value
Non-dippers	243	10.8	0.2665 (>0.05)
Dippers	227	6.2	

Table (5):

	Mean TG. level	S.D.	P. value
Non-dippers	218	7.6	0.2380 (>0.05)
Dippers	204	7.6	

Fig. (4):

Comparison between dippers (group A) and non dippers (group B) among ischemic patients regarding serum cholesterol and triglycerides

- **Table (6)** shows no difference between systolic day-time BP value in (group 1) in non-dippers and dippers among Ischemic while showing a highly significant increase on systolic night-time BP value in non-dippers than in dippers among ischemic ($P < 0.05$) as the P.value is 0.543 (> 0.05) which is not significant but highly significant during night-time as P.value is 0.00987 (< 0.01).

Table (6):

	Non-dippers		Dippers		P.value
	Mean	S.D	Mean	S.D	
Systolic day	140	10.9	138	5	0.543
Systolic night	135	7.4	114	7.6	0.00987

- **Table (7)** shows non significant change in diastolic day-time BLP value in non-dippers and dippers among ischemic P.value is 0.0843 (>0.05), while showing significant difference between diastolic night-time BP value in non-dippers than in dippers among ischemic P.value is 0.0259 ($P<0.05$).

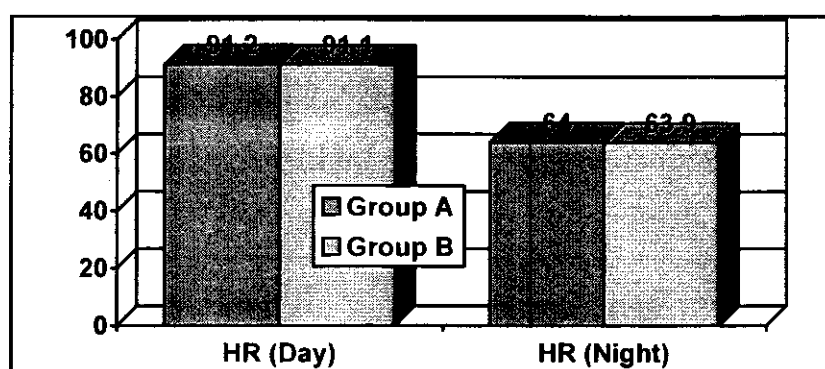
Table (7):

	Non-dipper		Dipper		P.Value
	Mean	S.D.	Mean	S.D.	
Diastolic day	84	9.9	88	9.5	0.0843
Diastolic night	80	7.7	64	7.3	0.0259

- There is no significant difference between day-time heart rate among dippers (mean: 91 beats/min) and non-dippers (mean: 91 beats/min) as P.value is 0.0835 ($P>0.05$) and similarly there is no difference between night-time heart rate among dippers (mean: 64 beats/min) and non-dippers (mean: 63 beats/min) as P.value is 0.741 ($P>0.05$) in ischemic patients as shown in table (8) and fig.(5).

Table (8):

	Non dippers			Dippers			P.valu e
	Mean	Min.	Max.	Mean	Min.	Max.	
Day-time	91	72	112	91	77	107	0.0835
Night- time	64	40	92	64	44	91	0.741

Figure (5):

Comparison between ischemic dippers (group A) and ischemic non-dippers (group B) regarding HR

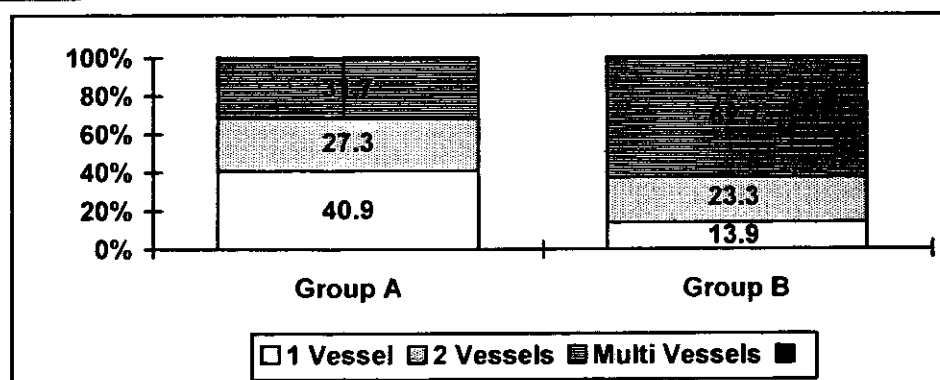
Coronary angiographic findings are represented in table (9) and fig. (6) for non-dippers and dippers:

Table (9):

	Dippers			Non-dippers		
Vessels No.	1	2	Multi vessels	1	2	Multi vessels
No. of cases	9	6	7	6	10	27
% of affection	40.9%	27.2%	31.7%	13.9%	23.2%	62.7%

- In non-dippers showing one vessel disease in 6 cases (13.9 %), 2 vessels disease in 10 cases (23.2) and multi vessel affection in 27 cases (62.7%) denoting a relatively high incidence of multi vessel affection.
- In dippers showing one vessel affection in 9 cases (40.9 %), 2 vessels affection in 6 cases (27.2 %), and multi vessel affection in 7 cases (31.7%) denoting a higher incidence of 1 vessel affection.

Figure (6):



Comparison between ischemic dippers (group A) and ischemic non-dippers (group B) regarding number of affected vessels

Clinical and laboratory characteristics among control group

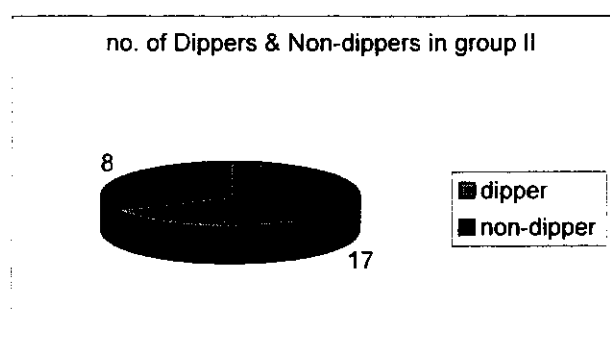
- The control group (group II) evaluated in this study is 25 hypertensive patients under regular medical treatment, suffering from typical chest pain, have no signs of metabolic diseases as assessed by medical history and physical examination and laboratory parameters, none of these subjects were on any medications except anti-hypertensive drugs, and had normal coronary angiographic findings. Ambulatory blood pressure monitoring shows that 8 subjects out of the 25 are non-dippers (32%) and 17 subjects are dippers (68%) as shown in table (10) and fig. (7).

Table (10):

	Non-Ischemic-Dippers	Non-Ischemic-Non-Dippers
No. of patients and percentage	17(68%)	8(32%)
Age (mean & S.D.)	48.6 ± 8.1	49.3 ± 8.2

Figure (7):

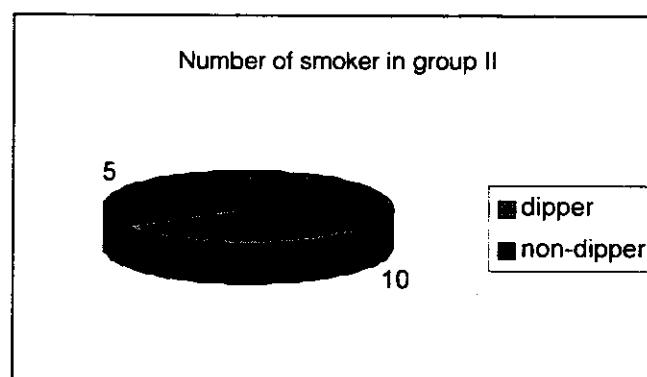
•



- In the control (group II) 10 subjects out of 17 are smokers among dippers and 5 subjects out of 8 are smokers among non-dippers with P.value is 0.8611 as shown in table (11) and figure (8).

Table (11):

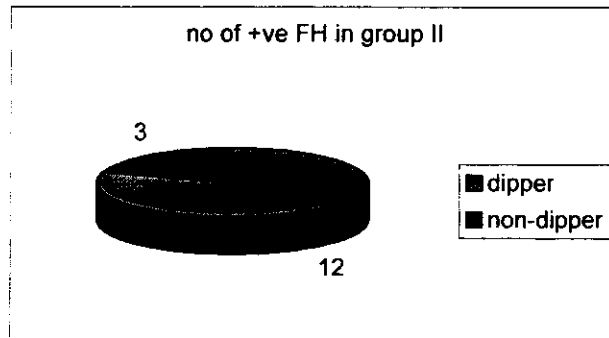
	Non ischemic (25)	
	Dippers	Non dippers
No. of patients	17	8
No. of Smokers	10 (58.8%)	5 (62.5%)
P. Value	0.8611 (P>0.05)	

Figure (8):

- Twelve patients out of 17 dippers among our control group (groupII) have positive family history of CAD. (70.5%) while 3 patients out of 8 non-dippers has also positive family history of CAD. (37.5%) with P.value between them is 0.1152 which is insignificant as shown in table (12) & fig. (9).

Table (12):

	Non-ischemic	
	Dippers	Non-Dippers
No. of cases (total)	17	8
Positive family history (FH)	12	3
Percentage	70.5%	37.5%
P. value	0.1152 (>0.05)	

Figure (9):

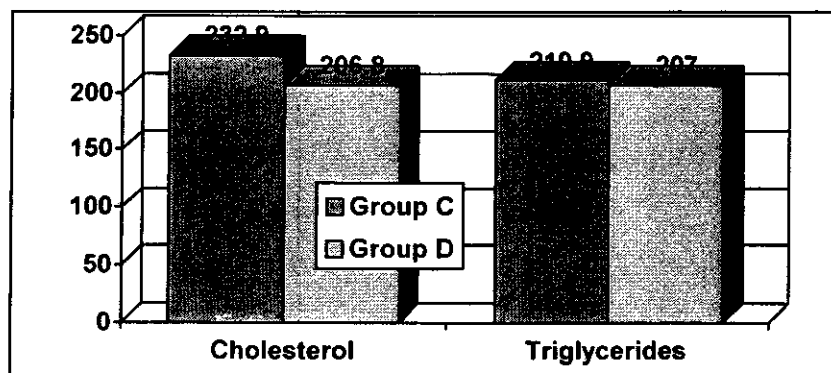
- Laboratory finding in group (II) (control) as regard mean and standard deviation (SD) of cholesterol (Ch) and triglyseride (TG) among non-ischemic dippers and non-dippers are listed in table (13&14) and fig. (10), show a non-significant difference between dippers and non-dippers among non-ischemic patients as p. value of patients of high cholesterol(Ch) level is : 0.1806 and for those of high trigleseride(TG) level is : 0.4531.
- Among non dippers the means of cholesterol (CH) level is 206 and the mean trigleseride (TG) level is 207.
- Among dippers the mean Ch. level is 232 and the mean TG. Level is 210.

Table (13):

	Mean Ch. Level	S.D.	P. value
Non-dippers	206	6.4	0.1806 (>0.05)
Dippers	232	6.6	

Table (15):

	Mean TG. Level	S.D.	P. value
Non-dippers	207	7.8	0.4531 (>0.05)
Dippers	210	7.5	

Figure (10):

Comparison between non ischemic dippers (group C) and non ischemic non dippers (group D) regarding serum cholesterol and triglycerides

- **Table 15** shows no different between systolic day-time BLP value in non-dippers and dippers among non-ischemic subject (control group) also no different in systolic night-time between both non dippers and dippers as the P.value is 0.432 (>0.05) and during night-time the P.value is 0.532 (>0.05) [Both values are in significant].

Table (15):

	Non-dippers		Dippers		P.value
	Mean	S.D	Mean	S.D	
Systolic day	139	10.6	133	11.8	0.432
Systolic night	133	7.3	117	6.9	0.532

- **Table (16)** Shows a non significant difference in diastolic day-time BL.P value between non-dippers among non-ischemic subjects (control group) as the P.value is 0.438 ($P>0.05$) also non-significance difference in diastolic night-time BL.P value between non-dippers and dippers among non ischemic subjects as the P.value is 0.587 ($P>0.05$).

Table (16):

	Non-dipper		Dipper		P.value
	Mean	S.D.	Mean	S.D.	
diastolic day	82	10.9	84	11.3	0.438
diastolic night	75	7.3	78	6.5	0.587

- There is no significance difference between day-time heart rates among dippers (mean 96 beats/min.) and non-dippers (mean 98 beats/min.) among control group (group II) with P.value is 0.514 ($P>0.05$), similarly there is no difference between night-time heart rate among dippers (mean 71 bets/ min.) and non-dippers (mean 73 beats/min.) with P.value is 0.286 ($P>0.05$) in our control group as shown in table (17):

Table (17):

	Non dippers			Dippers			P.value
	Mean	Min.	Max.	Mean	Min.	Max.	
Day-time	96	87	105	96	80	107	0.514
Night- time	73	52	81	71	50	90	0.286

The following table shows the comparison between the ischemic (group I) and non-ischemic (group II):

Table (18):

	Ischemic (group I) 65	Non-ischemic (group II) 25	P-value
No. of non-dippers	43 (66.15%)	8 (32%)	0.00034 P<0.001
Age	52±9	49±8	0.67 P>0.05
No. of smoker	43(66.15%)	15(60%)	0.0467 P>0.05
No. of positive family history (FH)	39 (60%)	15(60%)	0.53 P>0.05
Mean cholesterol level	230±8	220±6.5	0.732 P>0.05
Mean T.G level	210±7.6	208±7.7	0.783 P>0.05
Mean systolic blood pressure at day-time	140±10	135±11	0.315 P>0.05
Mean systolic blood pressure at night-time	130±7.6	122±10	0.713 P>0.05
Mean diastolic blood pressure at day-time	85±9	63±10	0.762 P>0.05
Mean diastolic blood pressure at night-time	80±7	76±7	0.875 P>0.05
Mean heart rate at day-time	91±9	96±7	0.432 P>0.05
Mean heart rate at night-time	64±10	70±10	0.53 P>0.05

- The following tables will summarize the non-dippers subjects among both ischemic and non ischeamic patients.

Among 90 studied subject we have 51 non-dippers 43 patients are ischemic (86.31%) and 8 not ischaemic (15.6%).

- **Table (19)** shows the number of high cholesterol and **Table (20)** show the number of high Triglyseride level in non-dippers patients among ischeamic and non-ischemic patients. Which show insignificant difference between both group of subjects. With P value: 0.1839 for cholesterol and 0.3484 for Triglyseride.

Table (19):

	No. of patients with high Ch. Level	Percentage	Mean	S.D.	P.value
Non-dippers ischemic	25	49%	243	108	0.1839 (P>0.05)
Non-dippers non-ischemic	4	7.8%	206	64	

Table (20):

	No. of patients with high TG. Level	Percentage	Mean	S.D.	P.value
Non-dippers ischemic	22	43%	218	76	0.3484 (P>0.05)
Non-dippers non-ischemic	3	5.8%	207	78	

- **Table (21)** show no difference between systolic day-time value in non-dippers in ischemic and non-ischemic patients. P.value is 0.7224 ($P>0.05$) also no difference between systolic nigh-time Bl.P. value among non-dippers in ischemic and non-ischemic subjects. P.value is 0.2289 ($P>0.05$).

Table (21):

	Non-Dippers ischemic		Non-Dippers Non-ischemic		P.value
	Mean	S.D	Mean	S.D	
Systolic-day	130	10.9	129	10.8	0.7224
Systolic-night	126	7.4	123	7.3	0.2289

- **Table (22)** Show a non-significant change in diastolic day-time BP between non-dippers ischaemic and non-dippers non-ischaemic with P.value is 0.8329 ($P>0.05$) also no significant change in diastolic night-time. BP between non-dippers ischemic and non. Dippers non-ischaemic with P. value is 0.7516 ($P>0.05$).

Table (22):

	Non-Dippers ischaemic		Non-Dippers Non-ischemic		P.value
	Mean	S.D	Mean	S.D	
Diastolic- Day	84	9.9	82	10.9	0.8329
Diastolic night	80	7.7	78	6.5	0.75161

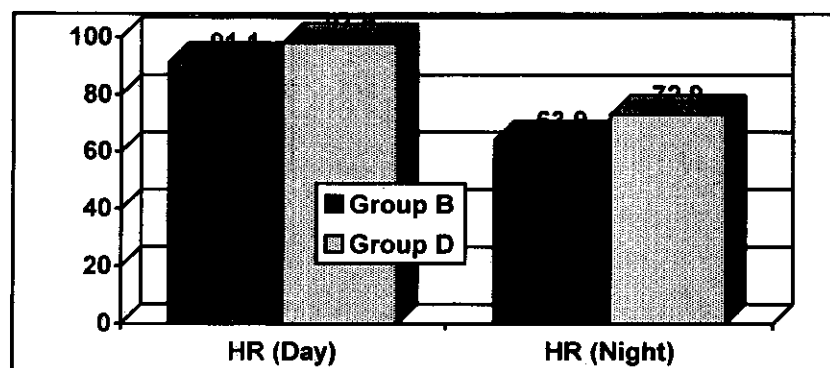
- There is insignificant difference between day-time heart rate among non-dippers ischemic (mean: 91 beats/min) and non-dippers non-ischemic (mean: 98 beats/min). With P.value is 0. 772 ($P>0.5$).

Also there is insignificant difference between night-time heart rate among non-dippers ischemic (mean: 64 beats/min) and non-ischemic non-dipper (mean: 73 beats/min) with P.value is 0. 375 ($P>0.05$) as shown in Table (23) as shown in fig. (11).

Table (23):

	Non-dippers ischemic			Non-dippers non-ischemic			P.value
	Mean	Min.	Max.	Mean	Min.	Max.	
Day-time	91	72	112	98	87	105	0. 772
Night-time	64	40	92	73	52	81	0. 375

Figure (11):



Comparison between ischemic non-dippers
and non-ischemic non-dippers regarding HR