

PART IV

RESULTS AND STATISTICAL ANALYSIS

STATISTICS

Results were expressed as the mean $\pm$ one standard deviation.

Data were analyzed with Duncan's multiple range test for multiple comparisons preceded by a one-way analysis of variance. A *p* value less than 0.05 was considered significant. Correlation coefficients were calculated with Spearman's rank test.

RESULTS AND STATISTICAL ANALYSIS

Tables 1,2 and 3 show the clinical findings in all studied groups.

Tables 4,5 and 6 show the results of laboratory work for all studied groups.

Table 7 show demographics of study groups by diagnosis.

Figure A and table 8 show the mean $\pm$ standard deviation of plasma levels of ir-ET-1 in the various studied groups.

The mean plasma ir-ET-1 concentration in patients with SAP was not significantly different from that of normal control subjects (0.51 ± 0.07 pg/ml and, 0.53 ± 0.07 pg/ml respectively).

Among patients with AMI, plasma ir-ET-1 concentration on day 1, and day 7 were significantly higher than those of control subjects (day 1: 3.73 ± 1.7 pg/ml, $p < 0.001$, day 7: 2.89 ± 1.16 pg.ml, $p < 0.001$, figure A).

However, the plasma ir-ET-1 concentration on day 14 (0.65 ± 0.18 pg/ml) was not significantly different from that of normal controls. Thus, the plasma level of ir-ET-1 was highest on day 1 during the acute phase of myocardial infarction and normalized over the next two weeks.

Table 9, shows the Wall motion abnormality index (WMAI), Killip's subset (KsS), and , ir-ET-1 level on admission day in patients with acute myorcardial infarction.

The relation of ir-ET-1 levels on day 1 of admission in AMI patients with hemodynamic parameters as assessed by Killip's classification is shown in **figure B**.

In **figure C**, the plasma level of ir-ET-1, in patients with AMI in day 1 showed a positive correlation with the wall motion abnormality index ($r = 0.91$, $p < 0.001$).

Table 1: Clinical Findings of patients with Acute Myocardial Infarction

Patient's No.	Chest Pain 'Min.'	Heart Rate 'Beat/Min.'	Blood Pressure 'mmHg'	Temperature 'Deg. Cent.	Cigarette Smoking
1	60	110	140/100	37.4	Yes
2	55	100	130/80	37.2	Yes
3	70	115	70/40	37.4	Yes
4	40	100	120/80	36.8	Yes
5	50	90	130/80	37.0	No
6	80	115	70/50	37.4	No
7	35	82	130/90	37.0	Yes
8	55	100	140/95	37.2	No
9	45	90	150/100	36.8	Yes
10	50	105	160/90	37.2	No
11	60	110	120/90	37.1	Yes
12	70	90	80/50	37.4	Yes
13	35	88	130/100	36.8	No
14	45	90	120/90	37.7	No
15	40	90	140/95	36.8	Yes
16	80	115	80/40	37.4	Yes
17	45	100	140/90	37.2	Yes
18	35	90	120/80	36.8	No
19	50	100	150/100	37.2	No
20	55	100	130/100	37.4	No
Mean	52.75	94.75	S : 130.00 D : 89	37.1	0.55
S.D.	13.9	22.29	S : 12.56 D : 7.71	0.51	0.51

S.D. = Standard Deviation

S = Systolic

D = Diastolic

Table 2 : Clinical findings of patients with Stable Angina Pectoris

Patient's No.	Chest Pain Min. '	Heart Rate Beat/Min. '	Blood Pressure mmHge '	Temperature Deg. Cent.	Smoking Cig. '
1	5	92	130/90	36.8	Yes
2	7	88	160/90	37.0	Yes
3	10	90	150/80	36.5	Yes
4	5	80	120/90	36.7	No
5	5	80	150/90	37.1	No
6	8	88	160/80	37.1	No
7	6	90	170/95	37.2	Yes
8	8	60	130/90	36.9	Yes
9	10	90	150/80	37.1	Yes
10	11	92	150/90	36.5	No
11	6	75	130/80	37.2	No
12	5	82	120/70	36.5	Yes
13	5	78	140/70	37.2	No
14	4	84	150/80	37.1	Yes
15	12	95	160/100	36.1	Yes
16	12	100	150/100	37.2	No
17	8	95	140/90	37.1	Yes
18	6	102	160/100	37.3	No
19	5	110	160/100	36.9	No
20	5	90	150/90	37.1	No
Mean	7.15	89.8	S : 146.5 D : 87.25	36.9	0.45
S.D.	2.58	8.74	S : 14.24 D : 9.38	0.25	0.51

Table 3: Clinical Findings of Control Subjects

Patient's No.	Heart Rate 'Beat/Min'	Blood Pressure 'mm/Hge'	Temperature 'Deg. Cent.'	Smoking 'Cig.'
1	75	130/90	36.8	Yes
2	86	160/100	37.0	No
3	78	120/90	36.6	No
4	82	110/70	36.7	No
5	72	160/95	37.1	Yes
6	69	140/90	37.0	Yes
7	78	140/90	36.8	No
8	79	160/80	36.6	Yes
9	92	150/80	36.7	No
10	83	120/90	37.0	No
11	90	160/90	37.1	No
12	85	160/95	37.0	No
13	68	130/90	36.8	No
14	82	160/80	36.8	Yes
15	74	130/90	36.8	Yes
16	76	130/80	36.7	Yes
17	80	120/80	37.1	No
18	76	130/90	37.0	Yes
19	80	120/90	37.2	Yes
20	85	130/90	37.0	No
Mean	79.65	S : 138.00 D : 86.25	36.89	0.45
S.D.	6.15	S : 17.04 D : 7.58	0.186	0.51

Table 4 : Demographics of study groups by diagnosis

Diagnosis	No. of Cases	Age (Mean) 'Years'	Standard Deviation
A.M.I.	20	42.65 (55.2)	6.46
S.A.P	20	36.62 (46.8)	8.35
N.	20	40-65 (49.7)	7.65

A.M.I. = **Acute Myocardial Infarction**
S.A.P. = **Stable Angina Pectoris**
N. = **Normal control subjects**
S.D. = **Standard Deviation**

Table 5: Results of Laboratory Work for Patients with Acute Myocardial Infarction.

Patient's	Cholesterol	Triglycerides	Uric Acid	F.B.S.	C.K.-'U/L'	On Day 1	On Day 7	Day 14
No.	'mgm/dl'	mgm/dl'	'mgm/dl'	'mgm/dl'		On Day 1	Day 7	Day 14
1	280	120	10	110	860	4.8	4.0	0.7
2	250	170	7	100	670	4.1	3.2	0.6
3	300	180	10	220	730	5.5	4.6	0.8
4	220	80	5	100	590	2.5	1.8	0.5
5	230	140	4	90	920	3.0	2.1	0.6
6	450	200	9	320	1,150	5.5	4.5	1.0
7	170	80	11	90	550	2.1	1.4	0.4
8	220	140	6	120	780	3.6	2.8	0.7
9	200	150	5	110	680	2.8	1.6	0.5
10	220	120	6	80	490	3.1	2.6	0.5
11	280	150	10	100	1,150	4.0	3.2	0.8
12	308	120	8	190	1,420	5.1	4.4	0.8
13	180	80	6	100	1,380	2.2	1.4	0.4
14	200	120	7	90	940	2.8	2.0	0.6
15	230	90	8	100	890	3.6	2.8	0.5
16	560	200	12	260	740	6.0	4.8	1.1
17	170	120	6	210	870	2.8	1.6	0.6
18	190	90	4	180	690	2.9	1.7	0.4
19	300	70	7	190	570	3.8	2.2	0.6
20	280	100	8	200	730	4.4	3.6	0.8
Mean	265.5	126.00	7.45	148.00	840.25	3.73	2.89	0.65
S.D.	98.86	39.92	2.3	68.17	261.60	1.70	1.16	0.18

F.B.S. = Fasting Blood Sugar.

C.K. = Creatine Kinase.

Ir-ET = Circulating Immunoreactive Endothelin.

Table 6: Results of Laboratory Work for Patients with Stable Angina Pectoris

Patient's No.	Cholesterol 'mgm/dl'	Triglycerides 'mgm/dl'	Uric Acid 'mgm/dl'	F.B.S. mgm%	C.K. 'U/L'	Ir-ET 'pg/ml'
1	180	100	7.0	190	140	0.58
2	200	85	7.5	170	110	0.60
3	250	120	6.5	120	90	0.65
4	160	95	6.0	100	150	0.52
5	150	120	6.5	110	115	0.55
6	230	190	7.0	180	130	0.50
7	130	85	6.8	210	160	0.46
8	200	120	5.8	150	110	0.48
9	230	88	6.8	120	170	0.50
10	260	230	8.0	110	130	0.52
11	230	100	8.5	180	80	0.49
12	190	98	7.5	120	100	0.38
13	200	100	8.0	90	75	0.42
14	220	130	7.6	100	120	0.52
15	260	120	7.8	85	160	0.55
16	300	150	9.0	230	135	0.60
17	230	120	6.5	110	105	0.52
18	180	100	6.6	120	95	0.42
19	140	85	5.8	100	75	0.48
20	160	88	6.0	90	170	0.36
Mean	205.00	111.20	7.06	134.25	121.00	0.51
S.D.	44.89	26.04	0.90	43.62	30.71	0.07

F.B.S. = Fasting Blood Sugar. *C.K. = Creatine Kinase.* *Ir-ET = Circulating Immunoreactive Endothelin.*

Table 7: Results of Laboratory Work for Control Subjects.

Patient's No.	Cholesterol 'mgm/dl'	Triglycerides 'mgm/dl'	Uric Acid 'mgm/dl'	F.B.S. mgm%	C.K. U/L	Ir-ET pg/ml
1	180	120	4.0	90	85	0.52
2	200	80	5.0	110	130	0.42
3	170	90	3.0	70	50	0.44
4	210	150	5.0	95	62	0.66
5	190	165	4.5	80	95	0.64
6	220	180	3.5	74	110	0.54
7	160	80	5.5	83	75	0.48
8	210	160	5.0	79	119	0.56
9	180	100	4.0	105	105	0.46
10	200	170	5.5	90	70	0.55
11	190	150	4.5	88	59	0.58
12	140	160	3.5	75	45	0.44
13	200	150	4.6	103	120	0.62
14	170	140	3.8	94	126	0.64
15	150	120	6.0	77	86	0.54
16	200	80	5.0	69	72	0.56
17	190	160	4.8	85	95	0.48
18	200	120	5.2	65	99	0.54
19	150	90	4.2	98	105	0.48
20	250	120	5.5	104	66	0.46
Mean	188.00	129.25	4.58	82.65	88.70	0.53
S.D.	26.47	33.49	0.83	21.75	25.67	0.07

F.B.S. = Fasting Blood Sugar.

C.K. = Creatine Kinase.

Ir-ET = Circulating Immunoreactive Endothelin.

Table 8: Mean $\pm$ S.D. for Immunoreactive Endothelin - 1 (pg/ml) in studied groups.

Studied Group	Mean	$\pm$ Standard Deviation
Acute Myocardial Infarction (Day 1)	3.73	1.70
Acute Myocardial Infarction (Day 7)	2.89	1.16
Acute Myocardial Infarction (Day 14)	0.65	0.18
Stable Angina Pectoris	0.51	0.07
Normal Control Subjects	0.53	0.07

Table 9: Wall Motion Abnormality Index (WMAI), Killip's Subset (KsS), and Immunoreactive Endothelin-1 (ir-ET-1) level in pg/ml on admission day in patients with acute myocardial infarction.

Patient's No.	WMAI	KsS	ir-ET-1
1	18	II	4.8
2	14	I	4.1
3	24	IV	5.5
4	7	I	2.5
5	14	I	3.5
6	22	IV	5.5
7	4	I	2.1
8	15	I	3.6
9	13	I	2.8
10	16	I	3.1
11	18	I	4.0
12	23	IV	5.1
13	5	I	2.2
14	8	I	2.8
15	7	I	3.6
16	27	IV	6.0
17	8	I	2.8
18	5	I	2.9
19	12	I	3.8
20	18	II	4.4

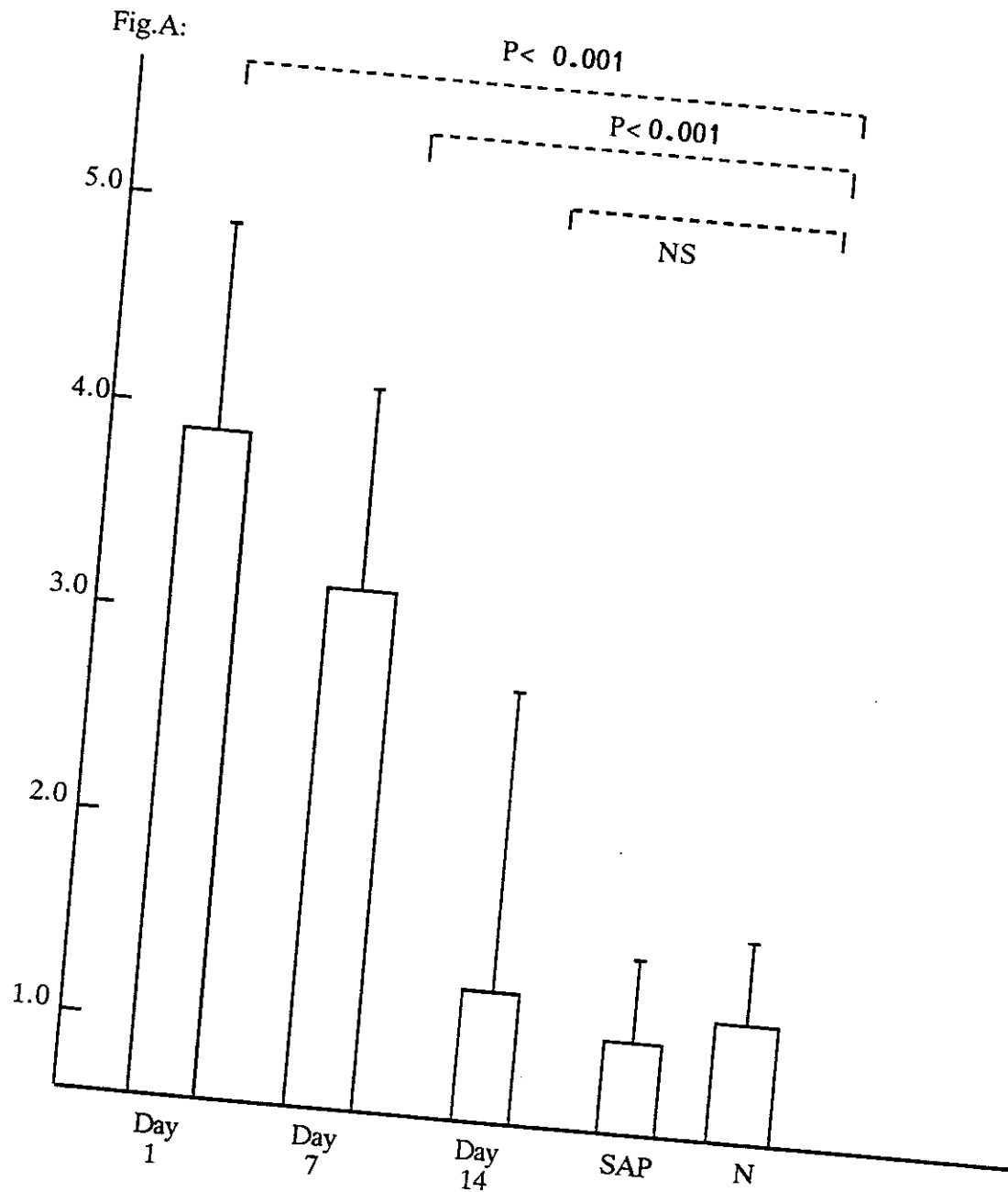


Fig. A Serial changes in plasma ir-ET concentrations in patients with AMI. Plasma ir-ET concentrations on day 1 and day 7 were significantly higher than those of normal control subjects. N, Normal control subjects.

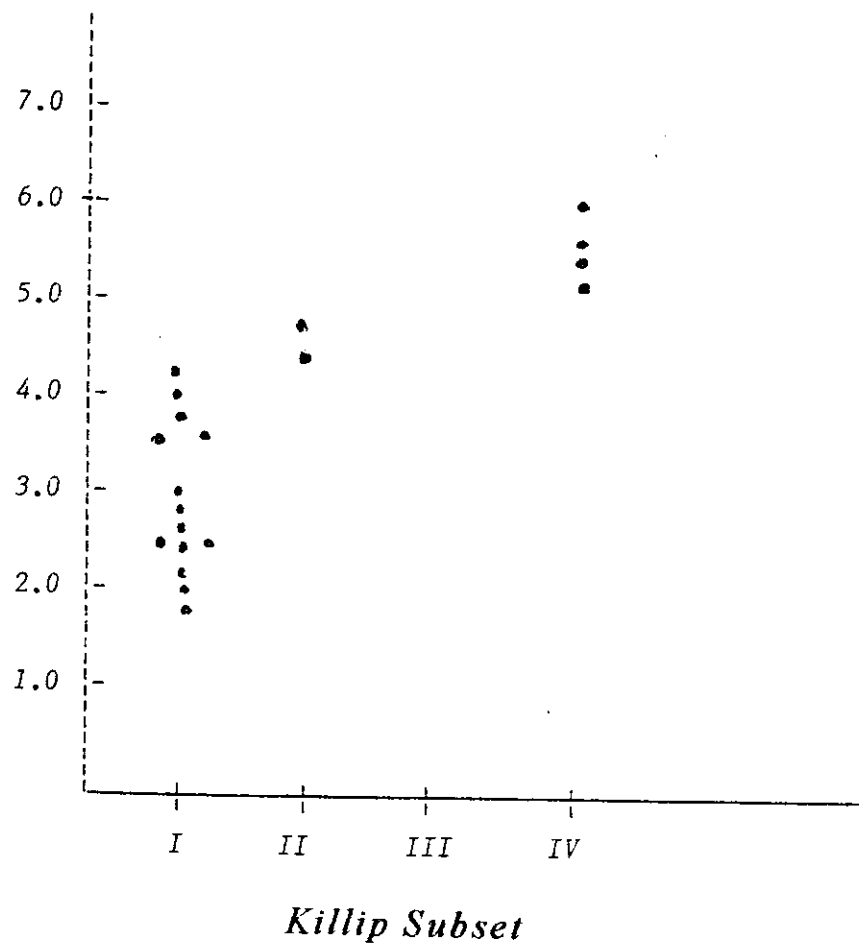


Fig. B Correlation between plasma ir-ET Concentration and Killip Subset in patients with AMI. Highest ir-ET levels were seen in patients with Killip Subset IV.

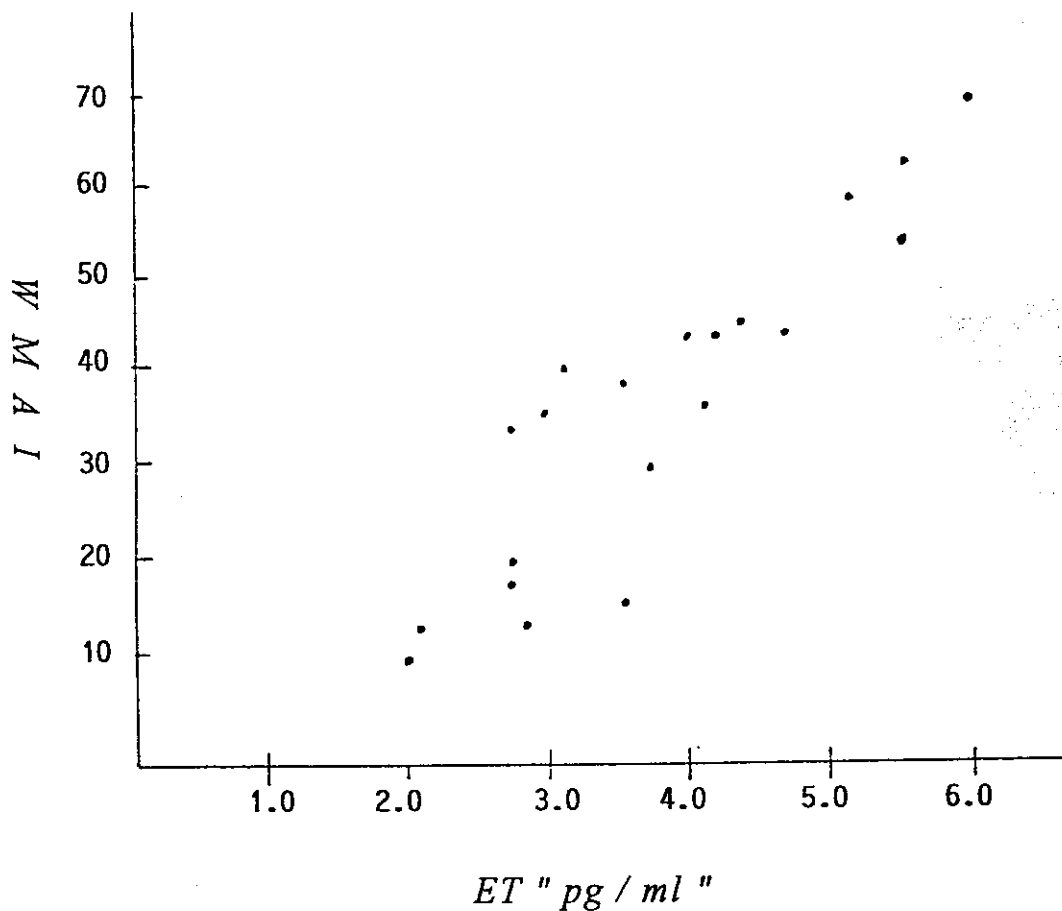


Fig. C. Correlation between plasma ir-ET Concentration and WMAI in patients with AMI 'day 1'. Plasma ir-ET Concentration showed significant positive Correlation with WMAI in patients with AMI.

WMAI, Wall Motion Abnormality Index.