R E S U L T S

Table A: Clinical Data of Control Group, Cases with early diabetes (Group I) and Cases with late Diabetes (Group II).

Control group: (n=20)	Age(Mean+SD) 50.7±6.24	Duration(Mean+SD) of disease	K Mean + SD 4.23±0.22
Early diabetes (n=10)	45.5±3.39	3.6±1.4 (months)	4.23±0.64
Late diabetes (n=10)	53.±7.4	5.2±3.3 (years)	4.5±0.95

Table B: Exercise performance in the control and diabetic cases.

Control (n=20)	Duration in sec.	Max.Hr	△ Hr	Max.SBP	△SBP
Mean	915	171	92	182	49
±SD	140.4	12	14	11.5	21.6
Cases(n=20)					
Mean	747	158	77	172.5	44.5
± SD	159.9	16	17	24.9	25.8
t	3.5308	2.9069	3.0460	1.5490	0.5981
P	< 0.05	< 0.05	< 0.05	> 0.05	> 0.05

> 0.05 No significant difference

*Probability of chance error

< 0.05 Significant difference

Max HR: Maximum Heart rate.

△HR : change in heart rate = maximum heart rate - resting heart rate.

Max SBP : Maximum systolic blood pressure.

△SBP : change in systolic blood pressure = maximum-resting systolic Blood pressure.

Table C : Risk factors in the control and in diabetics.

	Serum uric acid	HDL cholesterol	LDL cholesterol
control (n=20)			
Mean	4.81	45.3	177.6
±SD	0.87	11.94	31.61
Cases (n=20)			
Mean	4.52	48.4	171.3
± SD	1.17	19.49	31.77
t	0.6290	0.4289	0.4445
P	> 0.05	> 0.05	> 0.05

Table D : Exercise tolerance in the recently discovered and old diabetic patients.

	Duration	Max Hr.	Δ Hr	Max SBP	Δ SBP
Cases with early diabetes: (n=10)					
Mean	708	160	79	165	32
± SD	198	16	18	18.4	18
Cases with late diabetes :(n=10)					
Mean	786	155	75	180	57
± SD	104	16	17	29.1	27
	1.1029	0.5988	0.5109	1.3778	2.4363
	> 0.05	> 0.05	> 0.05	> 0.05	< 0.05

Table E: Risk factors in early and late diabetic patients.

	Semm uric acid	HDL cholesterol	LDL cholesterol
cases with early diabetes : (n=10)			
Mean	4.24	53.3	167.4
± SD	0.95	21.27	25.26
Cases with late diabetes (n=10)			
Mean	4.8	43.5	175.2
±SD	1.34	17.23	38.2
t	1.2706	1.1321	0.5386
P	> 0.05	> 0.05	> 0.05

able F : Exercise performance in relation to severity of diabetes.

	Duration in sec.	Max Hr	ΔHR	MAX SBP	Δ SBP
ld diabetes =7)					
an	788.4	160	81	167.1	42.9
D	251.6	19	22	26.9	20.6
derate diabetics =4)					
an	705	163	80	177.5	47.5
)	251.4	3	13	22.2	32
ere diabetes 9)					
n	756	154	73	174.1	47
	150	17	15	26.5	31.6
	$>$ 0.05	$>$ 0.05	$>$ 0.05	$>$ 0.05	$>$ 0.05

We considered fasting blood sugar indicative of the severity of diabetes.

100 - 140 mild diabetic

140 - 180 moderate diabetic

>180 severe diabetes

Table G : Risk Factors in relation to severity of diabetes.

	Serum uric acid	HDL cholesterol	LDH cholesterol
Mild diabetic cases (n=7)			
Mean	5	57.43	184.86
±SD	1.22	14.35	21.95
Moderate diabetic cases (n=9)			
Mean	4.3	43.3	146.9
SD	1.1	22.5	33.6
	> 0.05	> 0.05	< 0.05

Table H : Comparning Total cholesterolin the Diabetic patients and in the controls

Control (n=20)	
Mean	236.5
±SD	38.84
Cases (n=20)	
Mean	221.45
± SD	32.199
t	1.3341
P	> 0.05

Recently discovered Diabetic.

Age	Fasting blood sugar	Post. prandial	Total cholesterol	HDL cholesterol	LDL cholesterol	Uric acid	K	Duration of diabetes	Resting pulse	Resting B.P.	Resting ECG	Duration of exercise	Max. H.R.	Max. B.P.	ST segment.	Result
~~50~~	~~141~~	~~195~~	~~240~~	~~46~~	~~224~~	~~5.5~~	~~4.2~~	7months	100/ min	120/ 30	Normal	6min	165/ min	190/ 100	nochange	Neg.
50	155	228	190	54	136	3.8	5.5	3 "	80/ "	140/ 80	"	16"	160/ "	200/ 80	" "	"
41	299	408	224	59	165	3.6	4.6	3 "	100/ "	140/ 90	"	12	180/ "	170/ 90	" "	"
50	210	317	190	34	176	3.5	4	4 "	80/ "	140/ 90	"	7	160	160/ 90	" "	"
45	87	100	200	35	160	3.5	2	2 "	80/ "	130/ 90	"	12	166/	160/ 90	" "	"
42	420	600	260	87	173	5.5	4.5	3 "	80/ "	130/ 80	"	10	120/ "	150/ 90	" "	"
43	180	200	190	52	138	6	3.8	3 "	80/ "	130/ 90	"	13	160/ "	150/ 90	" "	"
49	105	120	150	62	182	5	3.9	3 "	68/ "	110/ 80	"	15	175/ "	140/ 70	" "	"
45	150	170	280	60	150	3.5	4.8	3 "	70/ "	150/ 80	"	12	166/ "	170/ 70	" "	"
40	90	120	215	80	170	4.5	3.8	9 "	80/ "	140/ 90	"	15	155/ "	160/ 100	" "	"

Old diabetic cases

Age	Fasting blood sugar	Post.prandial	Total cholesterol	HDL Cholesterol	LDL	Uric acid	K	Duration of diabetes.	Resting pulse	Resting B.P.	Resting ECG	Duration of exercise.	Maximum pulse	Max. HR.	ST segment. changes	Result.
40	85	95	220		220	6.5	4.2	4 years	80/ min	120/ 90	Normal	10min	182/ min	200/ 90	No change	Neg.
60	118	120	250	52	210	6	5	2 "	90/ "	140/ 80	"	14 "	150 "	130/ 70	"	"
59	282	320	270	15	225	6.2	4.5	10 "	80 "	140/ 90	"	13 "	150/ "	240/ 100	" "	"
53	236	320	250	46	204	5.3	3.8	"	80/ "	140/ 90	"	15 "	160/ "	180/ 90	" "	"
65	319	350	190	50	190	3.3	4.2	9 "	80/ "	130/ 90	"	12 "	125/ "	150/ 80	" "	"
47	72	327	200	55	180	6	6.9	5 "	75/ "	130/ 80	"	12 "	166/ "	180/ 75	" "	"
50	350	450	210	19	191	3	3.8	2 "	80/ "	130/ 90	"	12 "	170/ "	190/ 100	" "	"
61	90	110	240	68	172	3.5	3.8	10 "	75/ "	110/ 80	"	14 "	150/ "	170/ 70	" "	"
50	285	334	160	27	133	4.2	4.6	3 "	80/ "	150/ 80	"	13 "	140/ "	160/ 90	" "	"
56	306	365	200	53	147	4	3.8	2 "	80/	140/ 90	"	16 "	160/ "	160/ 80	" "	"

Controls

	Fasting blood sugar	Post prandial	Total cholesterol	HDL- cholesterol.	LDL-cholesterol.	Cortisone stress Test Fasting	1 hr.	2 hr.	Uric acid	K	Resting pulse	Resting B.P.	Normal	Duration of exercise	Max. H.R.	Max. B.P.	ST segment changes	Result
	87	100	320	30	290	87	110	100	6	4.5	75	120/90	"	12 min.	175/min	170/80		
	95	100	240	23	217	95	120	100	6.5	4.2	84	120/80	"	13	170	180/90	no change	negative
	89	100	310	25	210	89	110	100	6	4.8	70	130/75	"	12	188	170/90	"	"
	78	100	200	35	165	78	110	100	6.5	4.6	80	120/90	"	19	190	220/90	"	"
2	97	100	220	58	162	97	130	100	6	4.2	85	130/90	"	15	175	190/80	"	"
5	88	120	230	50	160	88	130	120	6	4.1	80	120/80	"	10	170	180/90	"	"
2	100	120	320	55	150	100	130	120	5.5	4.5	82	130/80	"	15	175	175/90	"	"
3	82	131	210	53	153	82	135	131	4.5	4.2	76	140/90	"	15	164	180/90	"	"
	80	100	220	44	176	80	110	100	4	4	70	120/80	"	16	180	170/90	"	"
	80	100	220	44	176	80	110	100	4.2	4.2	80	140/90	"	18	166	180/90	"	"
	90	100	270	77	193	90	110	100	5.2	4.2	80	130/90	"	13	165	190/90	"	"
	80	100	220	50	170	80	120	100	4.6	4.2	70	100/70	"	18	150	170/90	"	"
	80	100	210	50	166	80	130	120	4	4	85	130/90	"	18	170	180/90	"	"
	85	120	210	47	160	85	135	120	4.2	4.3	80	120/80	"	15	170	170/80	"	"
	82	120	220	45	165	82	135	130	4	4.2	85	120/85	"	16	166	170/85	"	"
	90	130	210	42	160	90	130	120	4	4	80	130/80	"	15	170	175/85	"	"
	85	120	210	40	165	85	130	120	4.5	4	85	130/80	"	17	180	180/80	"	"
	79	110	200	42	110	79	120	110	4.3	4.3	80	130/80	"	15	170	175/80	"	"
	80	110	230	47	110	80	120	110	4	4	85	140/90	"	16	175	190/90	"	"
	85	120	260	48	180	85	130	120	4.6	4.2	85	130/80	"	17	180	180/90	"	"

Age: In the recently discovered diabeteic group their age ranged from 40-50 years with a mean of 45.5±3.98. In the old diabetic cases the age ranged from 40 to 61 years with a mean of 53.7 ± 7.4 , while in the control group the age ranged from 41 to 60 years with a mean of 50.1±6.24. Table (A)

Duration of Diabetes Mellitus:

In the recently discovered group the duration ranged from 2-9 months with a mean of 3.6± 1.4 months.

In the old diabetic cases the duration ranged from 2-10 years with mean of 5.2 ± 3.3 years Table (A).

Resting Heart Rate: In the recently discovered diabetic the resting heart rate ranged from 68 to 100/min. The maximum heart rate attained by this group was a mean of 160 ± 16 and the Δ HR= (Change in heart rate= maximum heart rate-resting heart rate) was a mean of 79± SD 18.

In the old diabetic cases the resting heart rate ranged from 75-90/min. The maximum heart rate attained

by this group was with a mean of 155 ± SD 16 and the △HR was a mean of 75 ± SD 17 while in the control group the resting heart rate ranged from 70 - 85/min. The maximum heart rate attained by this group was with a mean of 171 ± SD 12 and the △HR was a mean of 92 ± SD 14 . Table B.

Resting Blood pressure, : The resting systolic blood pressure in the recently discovered diabetics ranged from 110 to 150 mmHg. The maximum systolic blood pressure attained by this group was a mean of 165 ± SD18.4. The △SBP (Change in systolic blood pressure = maximum - resting) was a mean of 49 ± SD 21.6.

In the old diabetic cases the resting systolic blood pressure ranged from 90 - 105 mmHg. The maximum systolic blood pressure attained by this group was a mean of 180 ± SD 29.1 and the △SBP was a mean of 57 ± SD 27. In the control group, the resting systolic blood pressure ranged from 120 to 140 mmHg . The maximum systolic blood pressure attanied by this group was a mean of 182 ± SD 11.5 and the △SBP was a mean of 49 ± SD 21.6. Table B .

Exercise tolerance :

In the recently discovered diabetic cases, the exercise tolerance ranged from 6 min to 16 minutes with a mean of 708 sec. ± SD 198. In the old diabetic cases the exercise tolerance ranged from 10 min. to 16 minutes with a mean of 786 sec. ± SD. In the control group the exercise tolerance ranged from 12 to 19 minutes with a mean of 915 sec ± SD 140.4. Table B., Table D.

ST segment changes : No changes occurred in the 3 groups.

Ectopic activity : No ectopic activity occurred in the 3 groups.

Total Cholesterol :

In the diabetic group including both the recently discovered cases and old diabetic cases, the total cholesterol was a mean of 221.45 ± SD 32.199, while in the control group, the total cholesterol was a mean of 236.5 ± SD 38.84. Table H.

Lipoproteins :

In the recently discovered diabetic group, the HDL cholesterol ranged from 16 to 87 with a mean of 53.3 ± SD 21.27, while the LDL cholesterol ranged from 136 to 182 with a mean

of 167.4 ± SD 25.26. In the old diabetic cases, the HDL cholesterol ranged from 15 to 55 with a mean of 43.5 ± SD 17.23 and the LDL cholesterol ranged from 133 to 225 with a mean of 175.2 ± SD 38.2. In the control group, the HDL cholesterol ranged from 23 to 77 with a mean of 45.3 ± 2 SD 11.94 and the LDL cholesterol ranged from 110 to 290 with a mean of 177.6 ± SD 31.61. Table C.

Uric Acid :

In the recently discovered diabetics, serum uric acid ranged from 3.5 to 6 with a mean of 4.24 ± SD 0.95. In the old diabetic cases, serum uric acid ranged from 3 to 6.5 with a mean of 4.8 ± SD 1.34, while in the control group, it ranged from 4 to 6 with a mean of 4.81 ± SD 0.87. Table C.

Potassium :

In the recently discovered diabetics, the serum potassium level varied from 3.2 to 5.5 with a mean of 4.23 ± 0.64, in the old diabetic cases, it ranged from 3.8 to 6.9 with a mean of 4.5 ± 0.95, while in the control group). It ranged from 4 to 4.8 with a mean of 4.23 ±).22. Table A.