

RESULTS

Results

This work was done on 60 case divided into three groups:

Group I refrence group, included 20 apparantly healthy egyptian subjects, their age ranged from 12 years to 60 years. (10 males and 10 females).

Group II IDDM included 20 cases, their age ranged from 16 to 38 years (10 males and 10 females).

Group III NIDDM included 20 cases, their age ranged from 40 years to 66 years (10 males and 10 females).

The duration of the discovery of diabetes mellitus ranged between 7 years to 25 years in both, IDDM group and NIDDM group.

Fasting blood glucose level in the control group ranged from 75mg/dl to 95 mg/dl with a mean level of 83.4 ± 7.02 (table 2).

The fasting blood glucose level in IDDM ranged from 180mg/dl to 400mg/dl with a mean level of 269 ± 67.3 mg/dl (table 2). The mean level was found to be a statistically significant increase, when compared to the mean level in the control group $P < 0.001$ (table 21).

The fasting blood glucose level in NIDDM ranged from 185 mg/dl to 354 mg/dl, with a mean level of 240.4 ± 51.6 mg/dl (table 2). The mean level was found to be a statistically significant increase when compared to the mean level in the control group $P < 0.001$

(table 21) while there was no statistically significant difference when compared to the mean level in IDDM groups $P > 0.05$ (table 21).

The postprandial blood glucose level in the control group ranged from 85 mg/dl to 110 mg/dl, with a mean level of 92.7 ± 7.03 mg/dl (table 2).

The postprandial blood glucose level in IDDM ranged from 300 mg/dl to 500 mg/dl, with a mean level of 365 ± 70.1 mg/dl (table 2). The mean level was found to be a statistically significant increase when compared to the mean level in the control group $P < 0.001$ (table 22).

The postprandial blood glucose level in NIDDM group ranged from 250 mg/dl to 458 mg/dl with a mean level of 314.9 ± 63.7 mg/dl (table 2). The mean level was found to be a statistically significant increase when compared to the mean level in the control group $P < 0.001$, (table 22), while, the mean level was found to be a statistically significant decrease when compared to the mean level in IDDM group $P < 0.05$ (table 22).

The serum urea level in control group ranged from 19 mg/dl to 35 mg/dl, with a mean level of 25.4 ± 5.6 mg/dl (table 3).

The serum urea level in IDDM group ranged from 19 mg/dl to 35 mg/dl, with a mean level of 25.5 ± 4.25 mg/dl (table 4). No statistical significant difference was found when compared to the

mean level in the control group $P>0.05$ (table 23).

The serum urea level in NIDDM group ranged from 15 mg/dl to 40 mg/dl with a mean level of 23.9 ± 8.3 mg/dl (table 5). The mean level was found to be of no statistical significant difference when compared to the mean level in the control group $P>0.05$ (table 23) and IDDM group $P>0.05$ (table 23).

The serum creatinine level in control group ranged from 0.7 mg/dl to 1.5 mg/dl, with a mean level of 0.96 ± 0.21 mg/dl (table 3).

The serum creatinine level in IDDM group ranged from 0.8 mg/dl to 1.9 mg/dl, with a mean level of 1.1 ± 0.29 (table 4). The mean level was found to be of no statistical significant difference when compared to the mean level in the control group $P>0.05$ (table 24).

The serum creatinine level in NIDDM group ranged from 0.8 mg/dl to 1.6 mg/dl, with a mean level of 1.1 ± 0.23 mg/dl (table 5). The mean level was found to be a statistically significant increase when compared to the mean level in the control group $P<0.05$ (table 24), while there was no statistical significant difference when compared to the mean level in IDDM group $P>0.05$ (table 24).

The urine creatinine level in the control group ranged from 100 mg/dl to 180 mg/dl, with a mean level of 140 ± 24.1 mg/dl (table 3).

The urine creatinine level in IDDM group ranged from 90 mg/dl to 180 mg/dl, with a mean level of 132.9 ± 31.5 mg/dl (table 4). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P > 0.05$ (table 25).

The urine creatinine level in NIDDM group ranged from 80 mg/dl to 180 mg/dl with a mean level of 148 ± 23.9 mg/dl (table 5). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P > 0.05$ (table 25) and IDDM group $P > 0.05$ (table 25).

The creatinine clearance in the control group ranged from 66 ml/min to 135 ml/min, with a mean level of 106 ± 30.5 ml/min (table 3).

The creatinine clearance in IDDM group ranged from 80 ml/min to 292 ml/min, with a mean level of 124.5 ± 42.4 ml/min (table 4). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P > 0.05$ (table 26).

The creatinine clearance in NIDDM group ranged from 87 ml/min to 165 ml/min, with a mean level of 125.3 ± 16.4 ml/min (table 5). The mean level was found to be a statistically significant increase, when compared to the mean level in the control group $P < 0.05$, (table 26), while, there was no statistical significant difference when compared to the mean level in IDDM $P > 0.05$ (table

26).

The total serum protein level in the control group ranged from 6 g/dl to 9 g/dl, with a mean level of 6.9 ± 0.75 (table 9). The total serum protein level in IDDM ranged from 5.7 g/dl to 7.7g/dl, with a mean level of 6.7 ± 0.64 (table 10). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P > 0.05$ (table 27).

The total serum protein level in NIDDM group ranged from 5.4 g/dl to 7.3 g/dl with a mean level of 6.6 ± 0.46 g/dl (table 11). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P > 0.05$ (table 27) and IDDM group $P > 0.05$ (table 27).

The serum albumin level in the control group ranged from 3.5 g/dl to 5.9 g/dl, with a mean level of 4.1 ± 0.66 g/dl (table 6).

The serum albumin level in IDDM group ranged from 3.4 g/dl to 5.9 g/dl, with a mean level of 3.8 ± 0.66 g/dl (table 7). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P > 0.05$ (table 28).

The serum albumin level in NIDDM group ranged from 2.6 g/dl to 4.6 g/dl, with a mean level of 3.3 ± 0.53 g/dl (table 8). The mean level was found to be a statistically significant decrease, when compared to the mean level in the control group $P < 0.001$

(table 28), and IDDM group $P < 0.01$ (table 28).

The total serum globulin level in the control group ranged from 2 g/dl to 3.2 g/dl, with a mean level of 2.7 ± 0.48 g/dl (table 6).

The total serum globulin level in IDDM group ranged from 2 g/dl to 4.1 g/dl, with a mean level of 2.9 ± 0.66 g/dl (table 7). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P > 0.05$ (table 29).

The total serum globulin level in NIDDM group ranged from 2.1 g/dl to 3.9 g/dl, with a mean level of 3.4 ± 0.49 g/dl (table 8). The mean level was found to be a statistically significant increase, when compared to the mean level in the control group $P < 0.001$ (table 29), and IDDM $P < 0.05$ (table 29).

The albumin / globulin ratio in the control group ranged from 1.2 to 2.4 with a mean level of 1.6 ± 0.35 (table 6).

The albumin / globulin ratio in IDDM group ranged from 1 to 2 with a mean level of 1.5 ± 0.5 (table 7). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P > 0.05$ (table 30).

The albumin / globulin ratio in NIDDM group ranged from 0.7 to 1.1, with a mean level of 1 ± 0.36 (table 8). The mean level was

found to be a statistically significant decrease, when compared to the mean level in the control group $P < 0.001$ (table 30), and IDDM group $P < 0.01$ (table 30).

The serum alpha-1- globulin in the control group ranged from 0.03 g/dl to 0.4 g/dl, with a mean level of 0.16 ± 0.08 g/dl (table 6).

The serum alpha-1- globulin in IDDM group ranged from 0.06 g/dl to 0.49 g/dl, with a mean level of 0.19 ± 0.12 g/dl (table 7). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P > 0.05$ (table 31).

The serum alpha-1- globulin in NIDDM group ranged from 0.11 g/dl to 0.3 g/dl, with a mean level of 0.24 ± 0.15 g/dl (table 8).

The mean level was found to be a statistically significant increase, when compared to the mean level in the control group $P < 0.05$ (table 31), while there was no statistical significant difference when compared to the mean level in IDDM group $P > 0.05$ (table 31).

The serum alpha-2- globulin level in the control group ranged from 0.26 g/dl to 0.9 g/dl with a mean level of 0.69 ± 0.17 g/dl (table 6).

The serum alpha-2- globulin level in IDDM group ranged from 0.1 g/dl to 0.98 g/dl with a mean level of 0.68 ± 0.25 g/dl (table

7). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P>0.05$ (table 32).

The serum alpha-2- globulin level in NIDDM group ranged from 0.11 g/dl to 1.07 g/dl with a mean level of 0.79 ± 0.29 g/dl. The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P>0.05$ (table 32), and IDDM group $P>0.05$ (table 32).

The serum B globulin level in control group ranged from 0.19 g/dl to 0.98 g/dl, with a mean level of 0.53 ± 0.22 g/dl (table 6).

The serum B globulin level in IDDM group ranged from 0.28 g/dl to 0.98 g/dl, with a mean level of 0.58 ± 0.28 g/dl (table 7). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P>0.05$ (table 33). The serum B globulin level in NIDDM group ranged from 0.39 g/dl to 0.97 g/dl, with a mean level of 0.74 ± 0.16 g/dl (table 8). The mean level was found to be a statistically significant increase, when compared to the mean level in the control group $P<0.01$ (table 33), and it was also a statistically significant increase when compared to the mean level in the IDDM group $P<0.05$ (table 33).

The serum gamma globulin level in the control group ranged

from 0.78 g/dl to 2 g/dl, with a mean level of 1.3 ± 0.43 g/dl (table 6). The serum gamma globulin level in IDDM group ranged from 0.78 g/dl to 1.75 g/dl, with a mean level of 1.3 ± 0.44 g/dl (table 7). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P > 0.05$ (table 34).

The serum gamma globulin level in NIDDM group ranged from 0.75 g/dl to 2.1 g/dl with a mean level of 1.6 ± 0.68 g/dl (table 8). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P > 0.05$ (table 34), while there was a statistically significant increase when compared to the mean level in the IDDM group $P < 0.05$ (table 34).

The serum transferrin level in the control group ranged from 0.16 g/dl to 0.48 g/dl with a mean level of 0.29 ± 0.09 g/dl (table 9).

The serum transferrin level in the IDDM group ranged from 0.17 g/dl to 0.48 g/dl with a mean level of 0.27 ± 0.09 g/dl (table 10). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P > 0.05$ (table 35).

The serum transferrin level in the NIDDM group ranged from 0.18 g/dl to 0.55 g/dl, with a mean level of 0.33 ± 0.11 g/dl (table 11). The mean level was found to be of no statistical

significant difference, when compared to the mean level in the control group $P>0.05$ (table 35) and IDDM group $P>0.05$ (table 35).

The serum B₂ microglobulin level in the control group ranged from 1.2 mg/l to 1.5 mg/l, with a mean level of 1.5 ± 0.3 mg/l (table 12).

The serum B₂ microglobulin level in IDDM group ranged from 1.1 mg/l to 1.8 mg/l, with a mean level of 1.5 ± 0.24 mg/l (table 13). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P>0.05$ (table 36).

The serum B₂ microglobulin level in NIDDM group ranged from 1 mg/l to 3.4 mg/l, with a mean level of 1.95 ± 0.75 mg/l (table 14). The mean level was found to be of a statistically significant increase, when compared to the mean level in the control group $P<0.05$ (table 36) and IDDM group $P<0.01$ (table 36).

The serum IgG level in the control group ranged from 0.57 g/dl to 1.2 g/dl, with a mean level of 0.82 ± 0.18 g/dl (table 9).

The serum IgG level in the IDDM group ranged from 0.66 g/dl to 1.2 g/dl, with a mean level of 0.9 ± 0.18 g/dl (table 10). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P>0.05$ (table 37).

The serum IgG level in the NIDDM group ranged from 0.48 g/dl to 0.98 g/dl, with a mean level of 0.6 ± 0.15 g/dl (table 11). The mean level was found to be a statistically significant decrease, when compared to the mean level in the control group $P < 0.001$ (table 37) and IDDM group $P < 0.001$ (table 37).

The albumin was not detected in the urine of the control group (table 9).

The albumin level in the urine of the IDDM group ranged from 7.5 mg/l to 220 mg/l, with a mean level of 87.1 ± 86.1 mg/l (table 10).

The albumin level in the urine of the NIDDM group ranged from 5 mg/l to 300 mg/l, with a mean level of 76.8 ± 92.4 mg/l (table 11). The mean level was found to be of no statistical significant difference, when compared to the mean level in IDDM group $P > 0.05$ (table 38).

The transferrin was not detected in the urine of the control group (table 9).

The transferrin level in the urine of the IDDM group ranged from 2 mg/l to 76 mg/l, with a mean level of 9.2 ± 21.2 mg/l (table 10).

The transferrin level in the urine of the NIDDM group was not detected except in two cases, only out of twenty cases, with a mean level of 7.3 ± 24.3 mg/l (table 11). The mean level was

found to be of no statistical significant difference, when compared to the mean level in IDDM group $P>0.05$ (table 39).

The urine B₂ microglobulin level in the control group ranged from 0.02 mg/l to 0.08 mg/l, with a mean level of 0.04 ± 0.02 mg/l (table 12).

The urine B₂ microglobulin level in the IDDM group ranged from 0.01 mg/l to 0.09 mg/l, with a mean level of 0.04 ± 0.03 mg/l (table 13). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P>0.05$ (table 40).

The urine B₂ microglobulin level in the NIDDM group ranged from 0.03 mg/l to 0.9 mg/l, with a mean level of 0.11 ± 0.13 mg/l (table 14). The mean level was found to be of no statistical significant difference, when compared to the mean level in the control group $P>0.05$ (table 40) and IDDM group $P>0.05$ (table 40).

The IgG was not detected in the urine of the control group (table 9).

The IgG level in the urine of the IDDM group ranged from 3 mg/l to 24 mg/l with a mean level of 4.1 ± 8.1 mg/l (table 10).

The IgG level in the urine of the NIDDM was not detected except in two cases, only out of twenty cases, with a mean level of 2.9 ± 9.4 mg/l (table 11). The mean level was found to be of no

statistical significant difference, when compared to the mean level in IDDM group $P>0.05$ (table 41).

The albumin clearance level in the IDDM group ranged from 0.1×10^{-3} ml/min to 5×10^{-3} , with a mean level of $1.89 \pm 2.01 \times 10^{-3}$ ml/min (table 19).

The albumin clearance level in the NIDDM group ranged from 0.1×10^{-3} ml/min to 9×10^{-3} ml/min, with a mean level of $2.3 \pm 2.9 \times 10^{-3}$ ml/min (table 20). The mean level was found to be of no statistical significant difference, when compared to the mean level in IDDM group $P>0.05$ (table 42).

The IgG clearance level in the IDDM group ranged from 0.4×10^{-3} ml/min to 3×10^{-3} ml/min with a mean level of $0.47 \pm 0.94 \times 10^{-3}$ ml/min (table 19).

The IgG clearance level in NIDDM was calculated in two cases only, out of twenty cases, with a mean level of $0.5 \pm 1.6 \times 10^{-3}$ ml/min (table 20). The mean level was found to be of no statistical significant difference, when compared to the mean level in IDDM group $P>0.05$ (table 43).

Table (1) Age, sex, duration of D.M. and 24 hours urine volume in the different studied groups

Control group				Insulin Dependent Diabetes Mellitus				Non Insulin Dependent Diabetes Mellitus						
Case No.	Age	Sex	Duration of D.M.(yr)	24 hrs urine volume ml	Case No.	Age	Sex	Duration of D.M.(yr)	24 hrs urine volume ml	Case No.	Age	Sex	Duration of D.M.(yr)	24 hrs urine volume ml
1	26	M		1584	1	20	F	16	2304	1	50	M	9	1728
2	12	M		1152	2	35	F	20	1152	2	51	F	7	1440
3	18	M		864	3	25	M	10	1440	3	41	F	9	1152
4	24	M		864	4	19	M	12	1440	4	47	F	7	1440
5	22	M		1152	5	17	M	7	1296	5	66	M	20	1296
6	19	F		1296	6	35	F	21	1152	6	65	M	8	1152
7	18	F		720	7	19	M	7	1152	7	60	F	7	1152
8	15	F		1008	8	16	F	10	1008	8	60	F	10	1728
9	17	F		720	9	23	F	13	1440	9	50	F	7	1152
10	21	F		1008	10	19	M	7	1296	10	52	F	10	1296
11	55	F		1440	11	28	M	10	1152	11	60	M	9	1440
12	50	F		1296	12	19	F	11	1440	12	65	F	8	1296
13	40	F		1152	13	17	F	7	1296	13	60	M	20	1728
14	45	F		1440	14	38	M	25	1440	14	40	F	8	1152
15	60	F		1296	15	20	F	10	1440	15	50	M	9	1296
16	50	M		1584	16	25	F	15	1008	16	50	M	9	1152
17	55	M		1296	17	18	M	10	1296	17	60	F	10	1440
18	40	M		864	18	20	M	11	1152	18	65	M	11	1440
19	45	M		1440	19	18	M	10	1152	19	55	M	8	1152
20	48	M		1296	20	22	M	12	1872	20	45	M	7	1296
No history of Diabetes Mellitus														
Mean	34			1174		22.6		12	1346		54.6		9.6	1346
S.D.	±16.1			±269.5		±6.5		±4.9	±300.2		±8.1		±3.7	±199.7
M = Male				F = Female				Yr. = Years						

Table (2) Fasting and postprandial blood and urine glucose levels in the different studied groups

Blood and urine glucose level in control group				Blood and urine glucose level in IDDM				Blood and urine glucose level in NIDDM			
Case No.	F	P.P.	Urine	Case No.	F	P.P.	Urine	Case No.	F	P.P.	Urine
1	80	90	Nit	1	350	450	+++	1	200	280	+
2	85	90	"	2	400	450	++	2	185	300	+
3	90	110	"	3	380	500	+++	3	200	250	+
4	95	100	"	4	280	371	++	4	208	400	++
5	85	90	"	5	250	450	++	5	200	250	+
6	75	85	"	6	250	345	++	6	200	300	+
7	85	90	"	7	200	245	++	7	190	250	+
8	75	80	"	8	380	450	++	8	354	458	+++
9	90	95	"	9	300	400	++	9	350	450	+++
10	96	100	"	10	200	350	++	10	275	375	++
11	80	90	"	11	180	300	+	11	250	270	++
12	85	95	"	12	200	300	++	12	229	312	++
13	76	95	"	13	300	400	++	13	270	354	+++
14	80	90	"	14	200	250	+	14	190	250	++
15	85	95	"	15	200	300	++	15	200	270	++
16	92	100	"	16	280	350	++	16	250	300	++
17	87	95	"	17	250	380	++	17	300	350	+++
18	75	80	"	18	220	330	++	18	230	280	++
19	73	85	"	19	270	340	++	19	240	289	++
20	85	90	"	20	290	340	++	20	270	310	++
Mean	83.4	92.7		269	365			240.4	314.9		
S.D.	7.02	7.03		67.3	70.1			51.6	63.7		

F = Fasting P.P. = Postprandial

Table (3) Serum urea , serum and urine creatinine , and creatinine clearance in control group

Case No.	Urea	Creatinine		
	serum mg%	Serum mg%	Urine mg%	Clearance ml/min
1	22	1.2	100	113
2	20	1	150	120
3	35	0.7	140	120
4	20	0.9	100	66
5	22	0.8	130	130
6	19	1.2	120	90
7	34	1.1	180	81
8	23	0.9	150	116
9	25	0.8	160	100
10	20	0.9	155	120
11	32	0.9	100	111
12	30	1.2	160	119
13	20	0.9	140	124
14	23	1.2	145	120
15	24	1.5	165	99
16	32	1.2	100	91
17	20	1.1	160	130
18	35	0.7	140	120
19	25	0.9	150	135
20	28	1.2	155	116
Mean	25.4	0.96	140	106
S.D.	5.6	0.21	24.1	30.5

Table (4) Serum urea , serum and urine creatinine , and creatinine clearance in IDDM group

Case No.	Urea	Creatinine		
	serum mg%	Serum mg%	Urine mg%	Clacance ml/min
1	29	1.2	90	120
2	29	0.9	110	97
3	22	1.2	160	133
4	22	0.9	120	133
5	21	0.9	100	100
6	19	1.4	160	91
7	26	1.2	120	80
8	29	0.7	110	109
9	28	1.4	180	128
10	26	0.9	120	120
11	26	0.9	130	115
12	22	1.4	160	114
13	28	0.8	115	129
14	30	1.2	158	131
15	20	1.9	160	133
16	22	0.9	155	122
17	21	1.4	165	106
18	30	1.2	153	102
19	35	0.9	143	127
20	25	0.8	150	292
Mean	25.5	1.1	132.9	124.5
S.D.	4.25	0.29	31.5	42.4

Table (5) Serum urea , serum and urine creatinine , and creatinine clearance in NIDDM group

Case No.	Urea	Creatinine		
	serum mg%	Serum mg%	Urine mg%	Clacance ml/min
1	40	1.5	164	131
2	15	1.6	165	103
3	39	0.9	160	142
4	38	1.1	130	118
5	21	1.1	155	126
6	16	1.1	162	117
7	30	0.9	161	143
8	23	1.6	158	118
9	15	0.8	165	165
10	17	1.1	162	132
11	18	1.2	165	137
12	15	1.1	160	130
13	15	0.9	80	106
14	20	1.1	180	130
15	22	1.1	155	126
16	22	0.8	130	130
17	30	0.9	115	127
18	25	1	125	125
19	32	1.1	120	87
20	27	1.2	150	113
Mean	23.9	1.1	148	125.3
S.D.	8.3	0.23	23.9	16.4

Table (6) Electrophoretical separated fractions of total serum protein in control group

Case No.	Albumin g/dl	α_1 -G g/dl	α_2 -G g/dl	β -G g/dl	γ -G g/dl	T.G. g/dl	Albumin/globulin A/G ratio
1	3.9	0.2	0.6	0.46	0.99	2.25	1.6
2	3.7	0.18	0.6	0.58	1.1	2.46	1.5
3	3.6	0.4	0.7	0.65	0.45	3.2	1.3
4	3.6	0.2	0.6	0.47	1.6	2.9	1.2
5	3.8	0.13	0.69	0.34	2	3.2	1.2
6	3.5	0.03	0.5	0.34	1.3	2.2	1.6
7	3.8	0.13	0.69	0.34	2	3.2	1.2
8	3.9	0.08	0.97	0.8	0.8	2.7	1.4
9	4.3	0.11	0.8	0.5	1.29	2.7	1.6
10	3.6	0.17	0.8	0.66	1.46	3.1	1.2
11	5.9	0.06	0.85	0.19	1.4	2.5	2.4
12	3.8	0.2	0.8	0.6	1.6	3.2	1.2
13	4.7	0.2	0.56	0.46	0.04	2.3	2
14	3.7	0.11	0.75	0.95	1.4	3.2	1.6
15	4.2	0.18	0.7	0.3	0.78	2	2.1
16	3.8	0.1	0.26	0.98	1.66	2.3	1.7
17	4.6	0.1	1	0.45	1.86	3.4	1.4
18	4.2	0.18	0.7	0.3	0.78	2	2.1
19	4.7	0.2	0.56	0.46	1.09	2.3	2
20	5.6	0.29	0.8	0.87	1.4	3.4	1.6
Mean	4.1	0.16	0.69	0.53	1.3	2.7	1.6
S.D.	0.66	0.08	0.17	0.22	0.43	0.48	0.35

G = globulin

T.G. = total globulin

Table (7) Electrophoretical separated fractions of total serum protein in IDDM group

Case No.	Albumin g/dl	α_1 -G g/dl	α_2 -G g/dl	β -G g/dl	γ -G g/dl	T.G. g/dl	Albumin/globulin A/G ratio
1	3.4	0.29	0.8	0.87	1.4	3.4	1
2	4.2	0.18	0.7	0.3	0.78	2	2.1
3	3.6	0.1	0.78	0.39	1.7	3	1.2
4	3.9	0.09	0.56	0.48	1.6	2.8	1.4
5	4.2	0.1	0.58	0.28	1	2	2.1
6	3.8	0.1	0.26	0.28	1.6	2.3	1.7
7	3.6	0.2	0.1	0.86	0.9	2.1	1.7
8	4.7	0.2	0.56	0.46	1.09	2.3	2
9	3.6	0.49	0.98	0.98	1.6	4.1	0.9
10	5.9	0.06	0.85	0.19	1.4	2.5	2.4
11	3.4	0.29	0.8	0.87	1.4	3.4	1
12	3.5	0.19	1.14	0.75	1.4	3.5	1
13	3.6	0.25	0.6	0.9	1.3	3.1	1.4
14	2.7	0.08	0.9	0.86	1.75	3.6	0.7
15	3.4	0.29	0.8	0.87	1.4	3.4	1
16	3.6	0.1	0.78	0.39	1.7	3	1.2
17	3.6	0.49	0.98	0.98	1.6	4	0.9
18	4.2	0.18	0.7	0.3	0.78	2	2.1
19	4.7	0.2	0.56	0.46	1.09	2.3	2
20	3.8	0.1	0.26	0.28	1.66	2.3	1.7
Mean	3.8	0.19	0.68	0.58	1.3	2.9	1.5
S.D.	0.66	0.12	0.25	0.28	0.44	0.66	0.5

G = globulin

T.G. = total globulin

Table (8) Electrophoretical separated fractions of total serum protein in NIDDM group

Case No.	Albumin g/dl	α_1 -G g/dl	α_2 -G g/dl	β -G g/dl	γ -G g/dl	T.G. g/dl	Albumin/globulin A/G ratio
1	3.7	0.28	0.98	0.84	1.2	3.3	1.1
2	3.1	0.22	0.6	0.8	2.1	3.9	0.8
3	3.04	0.23	0.7	0.8	1.8	3.6	0.8
4	2.6	0.16	1.06	0.8	1.5	3.6	0.7
5	2.8	0.19	1.04	0.97	1.4	3.6	0.8
6	3.1	0.11	0.66	0.69	0.48	2.9	1.1
7	2.8	0.26	1.07	0.76	1.6	3.7	0.7
8	3.9	0.8	0.97	0.8	0.8	3.4	1.1
9	3.4	0.11	0.95	0.95	1.4	3.4	1
10	3.1	0.2	0.11	0.55	1.4	2.3	1.3
11	3.4	0.17	0.8	0.66	1.5	3.1	1.1
12	4.3	0.11	0.8	0.5	1.3	2.8	1.5
13	3.4	0.16	0.11	0.75	1.8	3.8	0.9
14	4.6	0.3	0.6	0.4	0.75	2.1	2.2
15	3.1	0.22	0.6	0.8	2.1	3.7	0.8
16	2.8	0.26	1.07	0.76	1.6	3.1	0.7
17	3.4	0.3	0.6	0.39	0.8	3.8	0.9
18	2.8	0.26	1.07	0.76	1.6	3.7	0.7
19	2.8	0.19	1.04	0.97	1.4	3.6	0.7
20	3.7	0.28	0.98	0.84	1.2	3.3	1.1
Mean	3.3	0.24	0.79	0.74	1.6	3.4	1
S.D.	0.53	0.15	0.29	0.16	0.68	0.49	0.36

G = globulin

T.G. = total globulin

Table (9) Serum and urinary specific proteins in control group

Case No.	Total protein	Albumin		Transferrin		Ig G	
	Serum g/dl	Serum g/dl	Urine mg/l	Serum g/dl	Urine mg/l	Serum g/dl	Urine mg/l
1	6.2	3.9	ND	0.23	ND	0.76	ND
2	6.2	3.7	"	0.4	"	0.9"	"
3	6.9	3.6	"	0.45	"	0.74	"
4	6.7	3.6	"	0.4	"	0.86	"
5	7	3.8	"	0.25	"	0.74	"
6	6.7	3.5	"	0.25	"	0.7	"
7	7	3.5	"	0.25	"	0.76	"
8	6.6	3.9	"	0.39	"	0.57	"
9	7	4.3	"	0.25	"	0.86	"
10	6.7	3.6	"	0.32	"	0.56	"
11	8.4	5.9	"	0.23	"	0.98	"
12	7	3.8	"	0.29	"	1.12	"
13	7	4.7	"	0.17	"	0.94	"
14	6.9	3.7	"	0.38	"	0.57	"
15	6.2	4.2	"	0.2	"	0.66	"
16	6.1	3.8	"	0.25	"	1.2	"
17	8	4.6	"	0.25	"	0.88	"
18	6.2	4.2	"	0.2	"	0.66	"
19	7	4.7	"	0.16	"	0.94	"
20	9	5.6	"	0.48	"	0.	"
Mean	6.9	4.1	"	0.29	"	0.82	"
S.D.	0.75	0.66	"	0.09	"	0.18	"

ND = not detected

Table (10) Serum and urinary specific proteins in IDDM group

Case No.	Total protein	Albumin		Transferrin		Ig G	
	Serum g/dl	Serum g/dl	Urine mg/l	Serum g/dl	Urine mg/l	Serum g/dl	Urine mg/l
1	6.8	3.4	ND	0.48	ND	0.98	ND
2	6.2	4.2	180	0.2	"	0.66	3
3	6.6	3.6	15	0.3	"	0.76	ND
4	6.7	3.9	7.5	0.35	"	0.86	"
5	6.2	4.2	6	0.2	"	0.72	"
6	6.1	3.8	110	0.25	"	1.2	"
7	5.7	3.6	10	0.19	"	1.06	"
8	7	4.7	7.5	0.17	21	0.94	"
9	7.7	3.6	190	0.38	32	0.98	18
10	8.4	5.9	190	0.23	ND	0.98	19
11	6.8	3.4	220	0.18	76	0.94	ND
12	7	3.5	200	0.21	ND	0.94	24
13	6.7	3.6	6	0.27	"	1.02	ND
14	6.3	2.7	25	0.24	"	0.48	"
15	6.8	3.4	5	0.48	55	0.98	"
16	6.6	3.6	15	0.3	ND	0.76	"
17	7.7	3.6	190	0.38	"	0.98	18
18	6.2	4.2	180	0.2	"	0.66	ND
19	7	4.7	7.5	0.17	"	0.94	"
20	6.1	3.8	110	0.25	"	1.2	"
Mean	6.7	3.9	87.1	0.27	9.2	0.90	4.1
S.D.	0.64	0.66	86.1	0.09	21.2	0.18	8.1

ND = not detected

Table (11) Serum and urinary specific proteins in NIDDM group

Case No.	Total protein	Albumin		Transferrin		Ig G	
	Serum g/dl	Serum g/dl	Urine mg/l	Serum g/dl	Urine mg/l	Serum g/dl	Urine mg/l
1	7	3.7	ND	0.32	ND	0.48	ND
2	7	3.1	25	0.45	"	0.55	"
3	6.5	3.04	300	0.55	"	0.53	37
4	6.2	2.6	240	0.21	"	0.54	ND
5	6.4	2.4	90	0.18	"	0.53	"
6	6	3.1	5	0.25	102	0.55	"
7	6.5	2.8	15	0.45	ND	0.55	"
8	7.3	3.9	7.5	0.39	43	0.57	"
9	6.8	3.4	7	0.38	ND	0.57	"
10	5.4	3.1	245	0.33	"	0.54	22
11	6.5	3.4	37.5	0.32	"	0.56	ND
12	7.1	4.3	37.5	0.25	ND	0.86	"
13	7.2	3.4	155	0.25	"	0.98	"
14	6.5	4.6	25	0.18	"	0.7	"
15	6.8	3.1	25	0.45	"	0.55	"
16	6.5	2.8	15	0.45	"	0.55	"
17	7.2	3.4	155	0.25	"	0.98	"
18	6.5	2.8	15	0.45	"	0.55	"
19	6.4	2.8	90	0.18	"	0.53	"
20	7	3.7	ND	0.32	"	0.48	
Mean	6.6	3.3	78.8	0.33	7.3	0.6	2.9
S.D.	0.46	0.53	92.4	0.11	24.3	0.15	9.4

ND = not detected

Table (12) Serum and Urine β_2 microglobulin in control group

Case No.	Serum mg/L	Urine mg/L
1	1.2	0.06
2	1.5	0.06
3	1.2	0.03
4	1.2	0.02
5	1.5	0.08
6	1.5	0.02
7	1.5	0.02
8	1.2	0.03
9	1.5	0.06
10	2	0.05
11	2	0.03
12	2	0.03
13	1.5	0.04
14	2	0.02
15	2	0.03
16	1.2	0.07
17	1.5	0.03
18	1.4	0.02
19	1.3	0.05
20	1.5	0.02
Mean	1.5	0.04
S.D.	0.3	0.02

Table (13) Serum and Urine β_2 microglobulin in IDDM group

Case No.	Serum mg/L	Urine mg/L
1	1.5	0.01
2	1.4	0.02
3	1.8	0.01
4	1.5	0.09
5	1.5	0.01
6	1.1	0.07
7	1.3	0.08
8	1.5	0.05
9	1.2	0.06
10	1.5	0.01
11	1.8	0.01
12	1.5	0.01
13	1.5	0.05
14	1.5	0.07
15	1.8	0.01
16	2	0.01
17	1.2	0.06
18	1.4	0.02
19	1.5	0.05
20	1.1	0.07
Mean	1.5	0.04
S.D.	0.24	0.03

Table (14) Serum and Urine β_2 microglobulin in NIDDM group

Case No.	Serum mg/L	Urine mg/L
1	3	0.08
2	3.4	0.06
3	3	0.04
4	1.2	0.09
5	2.5	0.04
6	1	0.09
7	1.5	0.06
8	1.5	0.03
9	2.7	0.03
10	1	0.03
11	2	0.05
12	1.5	0.9
13	1.5	0.04
14	1.1	0.3
15	2	0.06
16	1.5	0.06
17	1.5	0.04
18	2.1	0.03
19	3	0.04
20	2	0.08
Mean	1.95	0.11
S.D.	0.75	0.19

Table (15) Serum albumin , urine albumin and albumin clearance in IDDM group

Case No.	Serum mg%	Urine mg%	Clearance ml/min. X 10 ⁻³
1	3400	ND	0
2	4200	16	3
3	3600	1.5	0.4
4	3900	0.75	0.2
5	4200	0.6	0.1
6	3800	11	2
7	3600	0.1	0.2
8	4700	0.75	0.1
9	3600	19	5
10	5900	19	3
11	3400	22	5
12	3500	20	5
13	3600	0.6	0.1
14	2700	2.5	0.9
15	3400	0.5	0.4
16	3600	1.5	0.3
17	3600	19	5
18	4200	18	3
19	4700	0.75	0.1
20	3800	11	4
Mean	3600	8.7	1.69
S.D.	660	8.6	2.01

Table (16) Serum albumin , urine albumin and albumin clearance in NIDDM group

Case No.	Serum mg%	Urine mg%	Clearance ml/min. X 10 ⁻³
1	3700	ND	0
2	3100	2.5	0.81
3	3040	30	8
4	2600	24	9
5	2800	9	3
6	3100	0.5	0.1
7	2800	1.5	0.41
8	3900	0.75	0.2
9	3400	0.7	0.2
10	3100	24.5	7
11	3400	3.75	1
12	4300	3.75	0.8
13	3400	15.5	5
14	4600	2.5	0.4
15	3100	2.5	0.7
16	2800	1.5	0.4
17	3400	15.5	5
18	2800	1.5	0.5
19	2800	9	3
20	3700	ND	0
Mean	3300	7.68	2.3
S.D.	530	9.2	2.9

ND = not detected

Table (17) Serum Ig G , urine Ig G and Ig G clearance in IDDM group

Case No.	Serum mg%	Urine mg%	Clearance ml/min. X 10 ⁻³
1	980	ND	0
2	660	0.3	0.4
3	670	ND	0
4	860	"	0
5	720	"	0
6	1200	"	0
7	1060	"	0
8	940	"	0
9	980	1.8	2
10	980	1.9	2
11	940	ND	0
12	940	2.4	3
13	1020	ND	0
14	480	"	0
15	980	"	0
16	760	"	0
17	980	1.8	2
18	660	ND	0
19	940	"	0
20	1200	"	0
Mean	900	0.4	0.47
S.D.	180	0.8	0.94

ND = not detected

Table (18) Serum Ig G , urine Ig G and Ig G clearance in NIDDM group

Case No.	Serum mg %	Urine mg %	Clearance ml/min. X 10 ⁻³
1	480	ND	0
2	550	ND	0
3	530	3.7	6
4	540	ND	0
5	530	"	0
6	550	"	0
7	550	"	0
8	570	"	0
9	570	"	0
10	540	2.2	4
11	560	ND	0
12	860	"	0
13	980	"	0
14	700	"	0
15	550	"	0
16	550	"	0
17	980	"	0
18	550	"	0
19	530	"	0
20	480	"	0
Mean	610	0.3	0.5
S.D.	150	0.9	1.6

ND = not detected

Table (19) Albumin clearance , Ig G clearance and selective permeability in IDDM group

Case No.	Albumin clearance ml/min. X 10 ⁻³	Ig G clearance ml/min. X 10 ⁻³	Selective permeability
1	0	0	H.S.
2	3	0.4	H.S. 10%
3	0.4	0	"
4	0.2	0	"
5	0.1	0	"
6	0.2	0	"
7	0.2	0	"
8	0.1	0	H.S.
9	5	2	M.S. 30%
10	3	2	P.S. 60%
11	5	0	H.S.
12	6	3	P.S. 40%
13	0.1	0	"
14	0.9	0	"
15	0.4	0	"
16	0.3	0	"
17	5	2	M.S. 30%
18	3	0	H.S.
19	0.1	0	"
20	4	0	"
Mean	1.89	0.47	—
S.D.	2.01	0.94	—

H.S. = Highly selective

M.S. = Moderately selective

P.S. = Poorly selective

Table (20) Albumin clearance , Ig G clearance and selective permeability in NIDDM group

Case No.	Albumin clearance ml/min. X 10 ⁻³	Ig G clearance ml/min. X 10 ⁻³	Selective permeability
1	0	0	H.S.
2	0.81	0	"
3	8	6	P.S. 70%
4	9	0	H.S.
5	3	0	"
6	0.1	0	"
7	0.4	0	"
8	0.2	0	"
9	0.2	0	"
10	7	4	P.S. 50%
11	1	0	H.S.
12	0.8	0	"
13	5	0	"
14	0.4	0	"
15	0.7	0	"
16	0.4	0	"
17	5	0	"
18	0.5	0	"
19	3	0	"
20	0	0	"
Mean	2.3	0.5	—
S.D.	2.9	1.6	—

H.S. = Highly selective

P.S. = Poorly selective

Table (21) Mean and standard deviation of fasting blood glucose level in the different studied groups.

	Mean	Standard deviation	t	P
Control	83.4	7.02	12.46	< 0.001 Sig.
IDDM	269	67.3		
Control	83.4	7.02	13.68	< 0.001 Sig
NIDDM	240.4	51.6		
IDDM	269	67.3	1.5	> 0.05 N.S.
NIDDM	240.4	51.6		

t = Student "t" test

P. = Probability

Sig. = Significant

N.S. = Not significant

Table (22) Mean and standard deviation of postprandial blood glucose level in the different studied groups.

	Mean	Standard deviation	t	P
Control	92.7	7.03	17.28	< 0.001 Sig.
IDDM	365	70.1		
Control	92.7	7.03	15.5	< 0.001 Sig.
NIDDM	314.9	63.7		
IDDM	365	70.1	2.37	< 0.05 Sig.
NIDDM	314.9	63.7		

t = Student "t" test

P. = Probability

Sig. = Significant

N.S. = Not significant

Table (23) Mean and standard deviation of serum urea level in the different studied groups.

	Mean	Standard deviation	t	P
Control	25.4	5.6	0.03	> 0.05
IDDM	25.5	4.25		N.S.
Control	25.4	5.6	0.67	> 0.05
NIDDM	23.9	8.3		N.S.
IDDM	25.5	4.23	0.74	> 0.05
NIDDM	23.9	8.3		N.S.

t = Student "t" test
N.S. = Not significant

P. = Probability

Table (24) Mean and standard deviation of serum creatinine level in the different studied groups.

	Mean	Standard deviation	t	P.
Control	0.96	0.21	1.73	> 0.05
IDDM	1.1	0.29		N.S.
Control	0.96	0.21	2.02	< 0.05
NIDDM	1.1	0.23		Sig.
IDDM	1.1	0.29	0.0	> 0.05
NIDDM	1.1	0.23		N.S.

t = Student "t" test-

P. = Probability

Sig. = Significant

N.S. = Not significant

Table (25) Mean and standard deviation of urine creatinine level in the different studied groups.

	Mean	Standard deviation	t	P
Control	140	24.1	0.8	> 0.05 N.S.
IDDM	132.9	31.5		
Control	140	24.1	1.06	> 0.05 N.S.
NIDDM	148	23.9		
IDDM	132.9	31.5	1.71	> 0.05 N.S.
NIDDM	148	23.9		

t = Student "t" test

N.S. = Not significant

P. = Probability

Table (26) Mean and standard deviation of creatinine clearance in the different studied groups.

	Mean	Standard deviation	t	P
Control	106	30.5	1.56	> 0.05 N.S.
IDDM	124.5	42.4		
Control	106	30.5	2.48	< 0.05 Sig.
NIDDM	125.3	16.4		
IDDM	124.5	42.4	0.08	< 0.05 N.S.
NIDDM	125.3	16.4		

t = Student "t" test

P. = Probability

Sig. = Significant

N.S. = Not significant

Table (27) Mean and standard deviation of serum total proteins in the different studied groups.

	Mean	Standard deviation	t	P
Control	6.9	0.75	0.95	> 0.05
IDDM	6.7	0.64		N.S.
Control	6.9	0.75	1.52	> 0.05
NIDDM	6.6	0.46		N.S.
IDDM	6.7	0.64	0.5	> 0.05
NIDDM	6.6	0.46		N.S.

t = Student "t" test

N.S. = Not significant

P. = Probability

Table (28) Mean and standard deviation of serum albumin level in the different studied groups.

	Mean	Standard deviation	t	P
Control	4.1	0.66	1.3	> 0.05
IDDM	3.8	0.66		N.S.
Control	4.1	0.66	4.49	< 0.001
NIDDM	3.3	0.53		Sig
IDDM	3.6	0.66	3.0	< 0.01
NIDDM	3.3	0.53		Sig.

t = Student "t" test

P. = Probability

Sig. = Significant

N.S. = Not significant

Table (29) Mean and standard deviation of total serum globulins level in the different studied groups.

	Mean	Standard deviation	t	P
Control	2.7	0.48	1.0	> 0.05
IDDM	2.9	0.66		N.S.
Control	2.7	0.48	4.13	< 0.001
NIDDM	3.4	0.49		Sig
IDDM	2.9	0.66	2.5	< 0.05
NIDDM	3.4	0.49		Sig.

t = Student "t" test

P. = Probability

Sig. = Significant

N.S. = Not significant

Table (30) Mean and standard deviation of serum albumin / globulin ratio in the different studied groups.

	Mean	Standard deviation	t	P
Control	1.6	0.35	0.8	> 0.05
IDDM	1.5	0.5		N.S.
Control	1.6	0.35	5.23	< 0.001
NIDDM	1	0.36		Sig.
IDDM	1.5	0.5	3.39	< 0.01
NIDDM	1	0.36		Sig

t = Student "t" test

P. = Probability

Sig. = Significant

N.S. = Not significant

Table (31) Mean and standard deviation of serum alpha globulin in the different studied groups.

	Mean	Standard deviation	t	P
Control	0.16	0.08	1.1	> 0.05
IDDM	0.19	0.12		N.S.
Control	0.16	0.08	2.08	< 0.05
NIDDM	0.24	0.15		Sig
IDDM	0.19	0.12	0.97	> 0.05
NIDDM	0.24	0.15		N.S.

t = Student "t" test

P. = Probability

Sig. = Significant

N.S. = Not significant

Table (32) Mean and standard deviation of serum alpha 2 globulin in the different studied groups.

	Mean	Standard deviation	t	P
Control	0.69	0.17	0.17	> 0.05 N.S.
IDDM	0.68	0.25		
Control	0.69	0.17	1.2	> 0.05 N.S.
NIDDM	0.79	0.29		
IDDM	0.68	0.25	1.2	> 0.05 N.S.
NIDDM	0.79	0.29		

t = Student "t" test

N.S. = Not significant

P. = Probability

Table (33) Mean and standard deviation of serum beta globulin in the different studied groups.

	Mean	Standard deviation	t	P
Control	0.53	0.22	0.62	> 0.05
IDDM	0.58	0.26		N.S.
Control	0.53	0.22	3.26	< 0.01
NIDDM	0.74	0.16		Sig.
IDDM	0.58	0.28	2.06	< 0.05
NIDDM	0.74	0.16		Sig.

t = Student "t" test

P. = Probability

Sig. = Significant

N.S. = Not significant

Table (34) Mean and standard deviation of serum gamma globulin in the different studied groups.

	Mean	Standard deviation	t	P
Control	1.3	0.43	0.32	> 0.05
IDDM	1.3	0.44		N.S.
Control	1.3	0.43	1.77	> 0.05
NIDDM	1.6	0.68		N.S.
IDDM	1.3	0.44	2.05	< 0.05
NIDDM	1.6	0.68		Sig.

t = Student "t" test

P. = Probability

Sig. = Significant

N.S. = Not significant

Table (35) Mean and standard deviation of serum transferrin in the different studied groups.

	Mean	Standard deviation	t	P
Control	0.29	0.09	0.61	> 0.05
IDDM	0.27	0.09		N.S.
Control	0.29	0.09	1.24	> 0.05
NIDDM	0.33	0.11		N.S.
IDDM	0.27	0.09	1.79	> 0.05
NIDDM	0.33	0.11		N.S.

t = Student "t" test

P. = Probability

N.S. = Not significant

Table (36) Mean and standard deviation of serum B 2 microglobulin in the different studied groups.

	Mean	Standard deviation	t	P
Control	1.5	0.3	0.64	> 0.05 N.S.
IDDM	1.5	0.24		
Control	1.5	0.3	2.3	< 0.05 Sig.
NIDDM	1.95	0.75		
IDDM	1.5	0.24	2.68	< 0.01 Sig.
NIDDM	1.95	0.75		

t = Student "t" test

P. = Probability

Sig. = Significant

N.S. = Not significant

Table (37) Mean and standard deviation of serum Ig G in the different studied groups.

	Mean	Standard deviation	t	P
Control	0.82	0.18	1.46	> 0.05
IDDM	0.9	0.18		N.S.
Control	0.82	0.18	4.04	< 0.001
NIDDM	0.61	0.15		Sig.
IDDM	0.9	0.18	5.58	< 0.001
NIDDM	0.61	0.15		Sig.

t = Student "t" test

P. = Probability

Sig. = Significant

N.S. = Not significant

Table (38) Mean and standard deviation of urine albumin in the different studied groups.

	Mean	Standard deviation	t	P
Control	0	0	0	0
IDDM	87.1	86.1		
Control	0	0	0	0
NIDDM	76.8	92.4		
IDDM	87.1	86.1	0.3	> 0.05 N.S.
NIDDM	76.8	92.4		

t = Student "t" test

P. = Probability

N.S. = Not significant

Table (39) Mean and standard deviation of transferrin in the urine of the different studied groups.

	Mean	Standard deviation	t	P
Control	0	0	0	0
IDDM	9.2	21.2		
Control	0	0	0	0
NIDDM	7.3	24.3		
IDDM	9.2	21.2	0.2	> 0.05
NIDDM	7.3	24.3		N.S.

t = Student "t" test

N.S. = Not significant

P. = Probability

Table (40) Mean and standard deviation of urine B2 microglobulin in the different studied groups.

	Mean	Standard deviation	t	P
Control	0.04	0.02	0	> 0.05 N.S.
IDDM	0.04	0.03		
Control	0.04	0.02	1.53	> 0.05 N.S.
NIDDM	0.11	0.19		
IDDM	0.04	0.03	1.52	> 0.05 N.S.
NIDDM	0.11	0.19		

t = Student "t" test

N.S. = Not significant

P. = Probability

Table (41) Mean and standard deviation of Ig G in the urine of the different studied groups.

	Mean	Standard deviation	t	P
Control	0	0	0	0
IDDM	4.1	8.1		
Control	0	0	0	0
NIDDM	2.9	9.4		
IDDM	4.1	8.1	0.41	>0.05 N.S.
NIDDM	2.9	9.4		

t = Student "t" test

N.S. = Not significant

P. = Probability

Table (42) Mean and standard deviation of albumin clearance in both of IDDM and NIDDM groups.

	Mean	Standard deviation	t	P
IDDM	1.89	2.01	0.48	> 0.05
NIDDM	2.3	2.9		N.S.

t = Student "t" test

N.S. = Not significant

P. = Probability

Table (43) Mean and standard deviation of Ig G clearance in both IDDM and NIDDM groups.

	Mean	Standard deviation	t	P
IDDM	0.47	0.94		
NIDDM	0.5	1.6	0.07	> 0.05 N.S.

t = Student "t" test

N.S. = Not significant

P. = Probability

Fig. (1) The mean level of serum creatinine
in the different studied groups

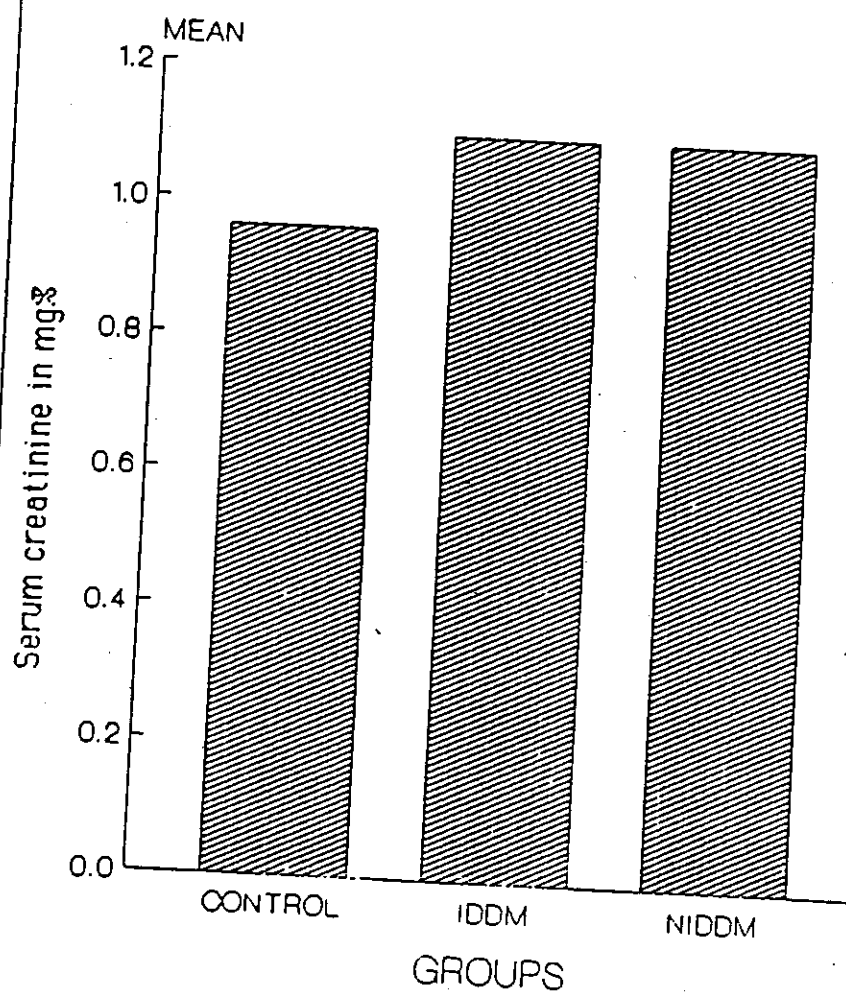


Fig. (2) The mean level of urine creatinine in the different studied groups

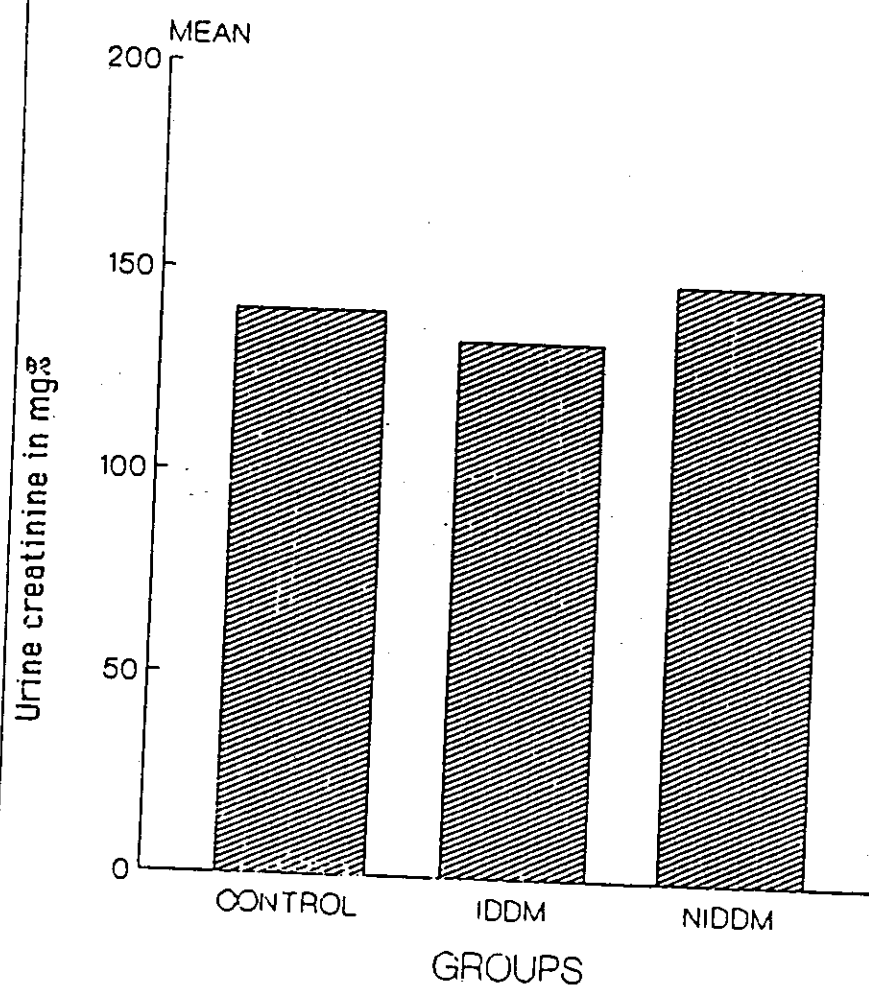


Fig. (3) The mean level of creatinine clearance in the different studied groups

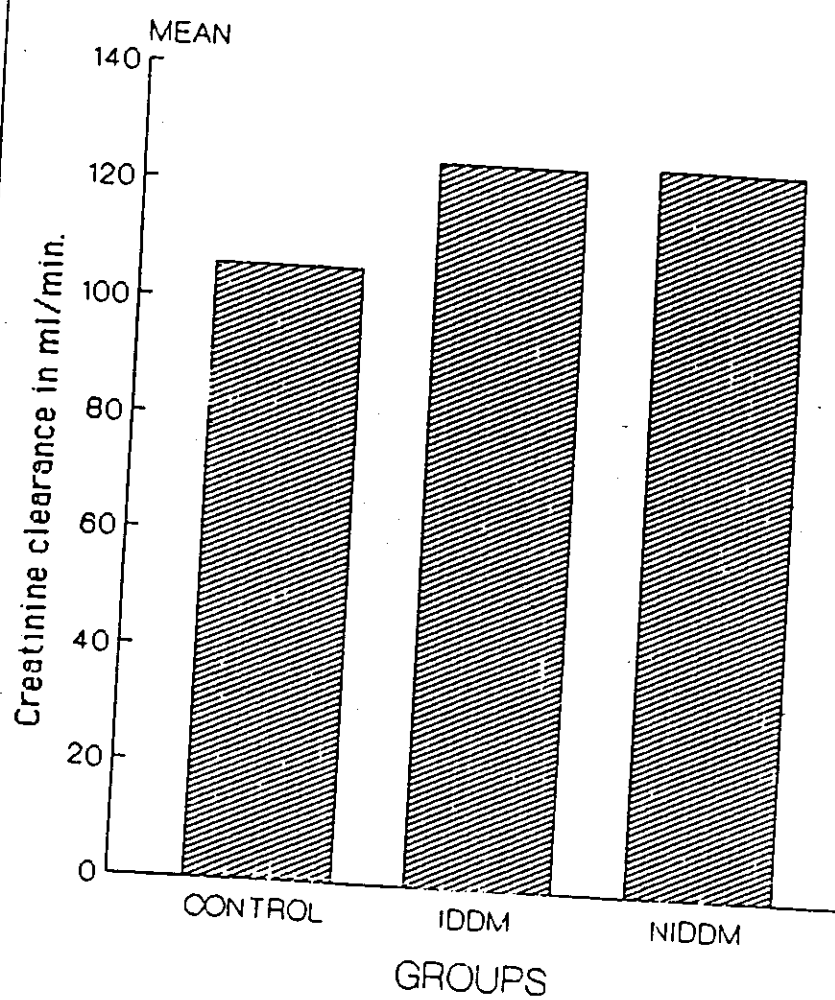


Fig. (4) The mean level of serum total protein in the different studied groups

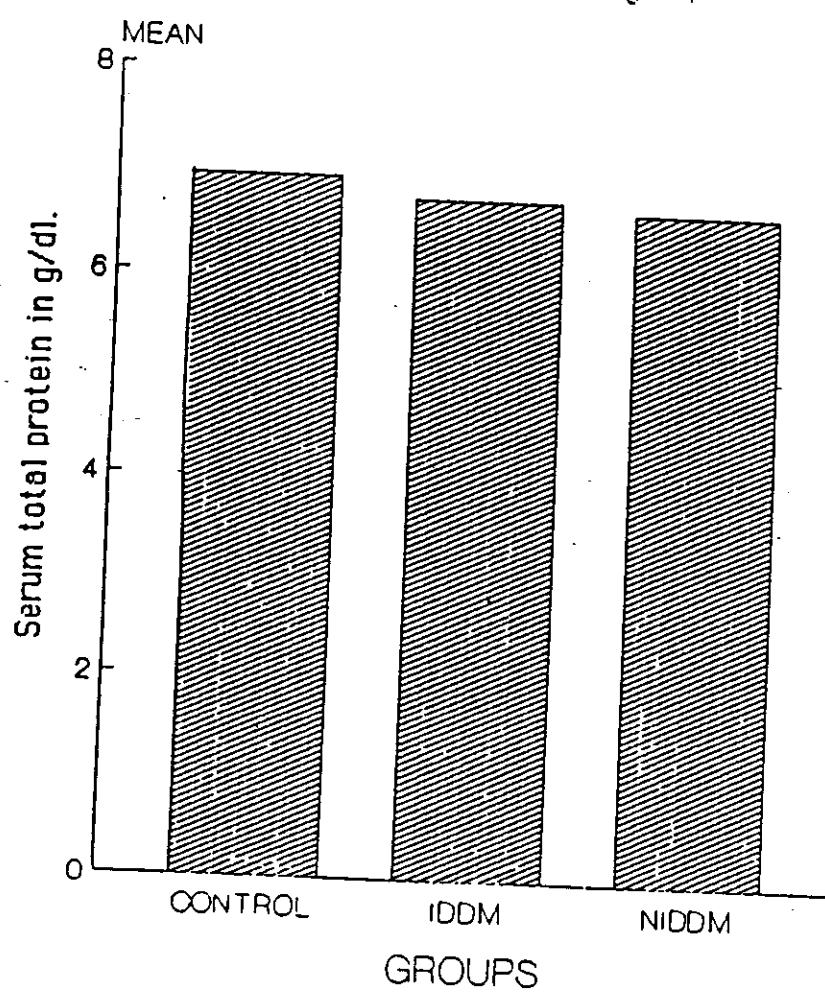


Fig. (5) The mean level of serum albumin in the different studied groups

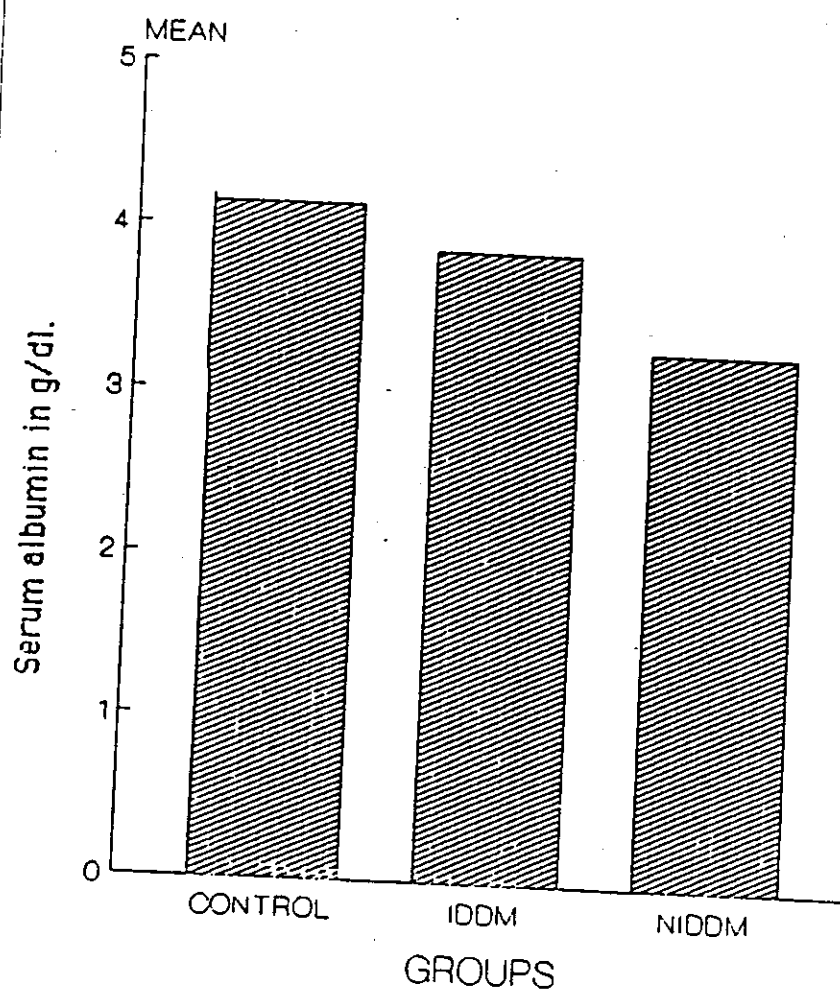


Fig. (6) The mean level of serum globulins in the different studied groups

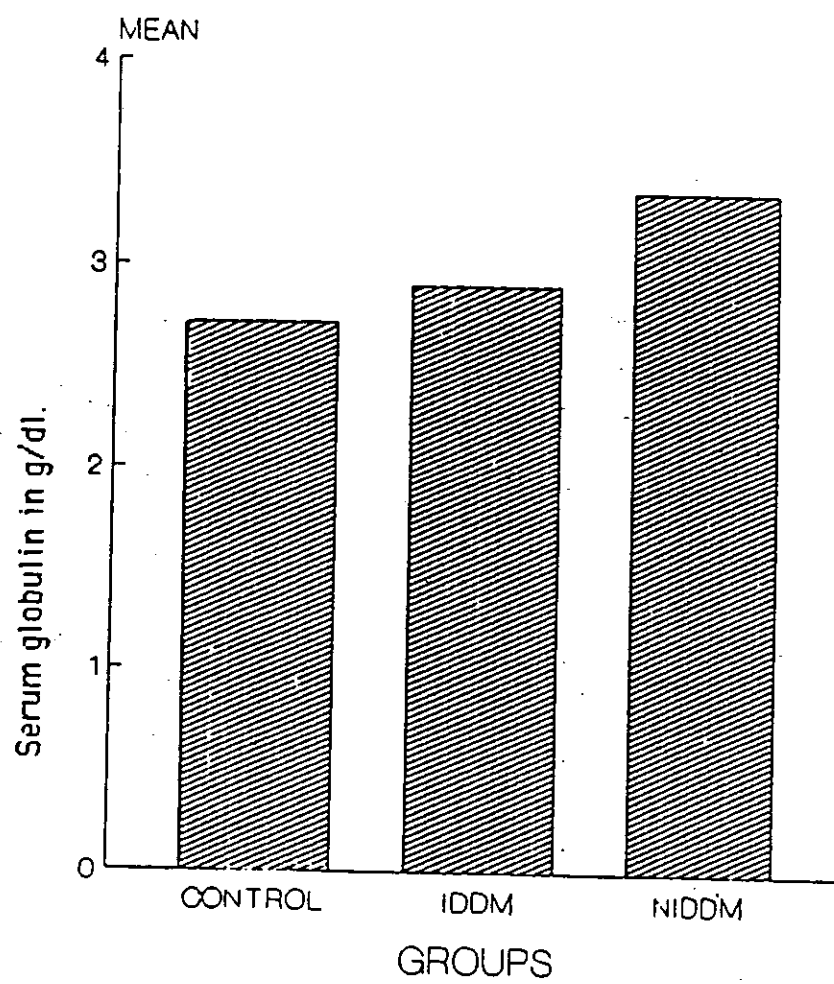


Fig.(7) The mean level of Albumin / Globulin ratio in the different studied groups

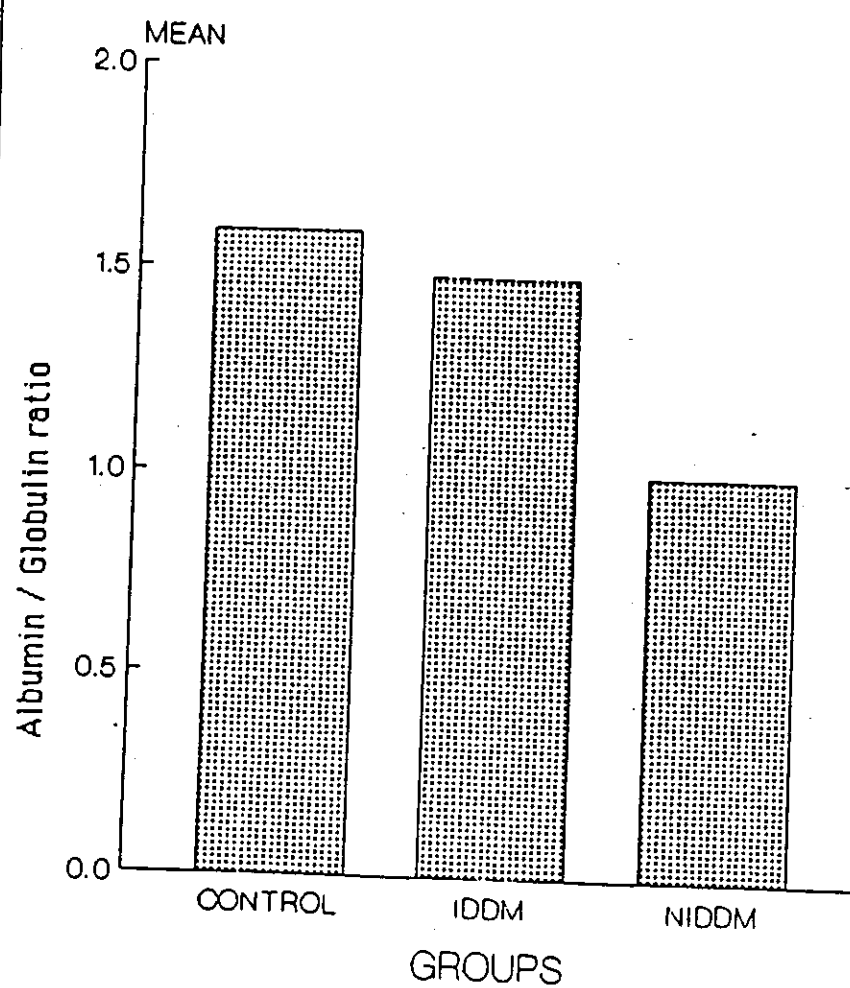


Fig (8) The mean level of α_1 - globulin
in the different studied groups

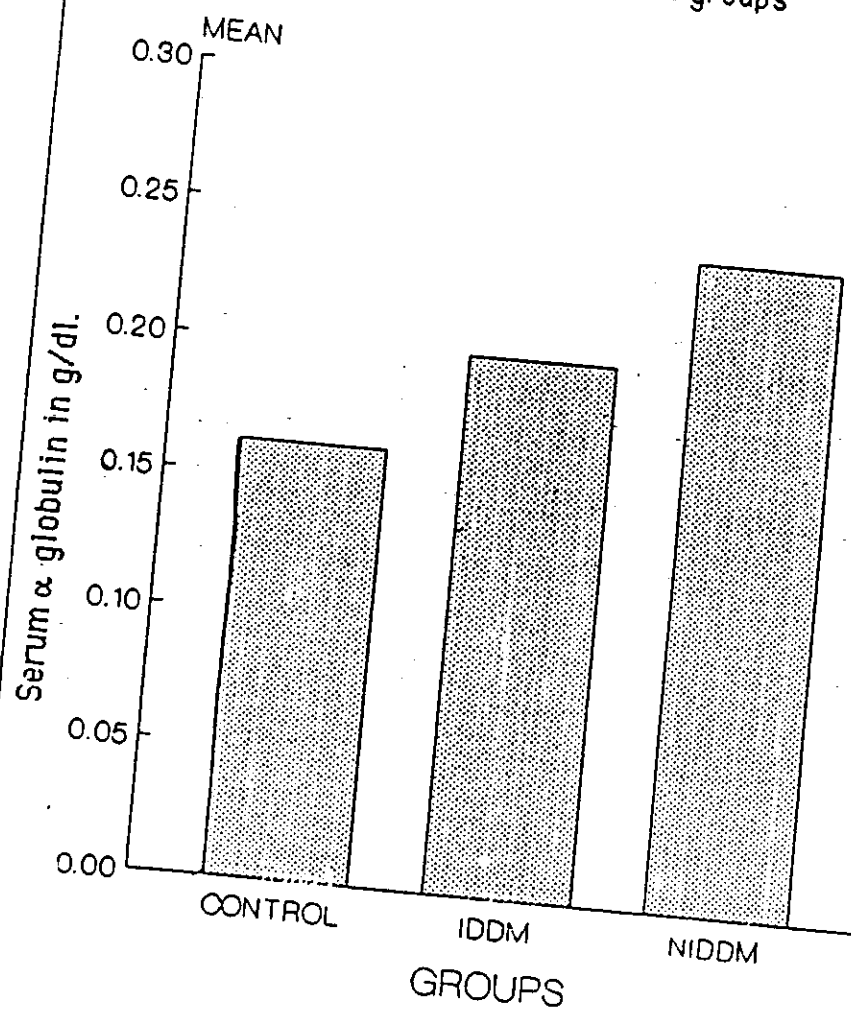


Fig. (9) The mean level of serum α_2 -globulin in the different studied groups

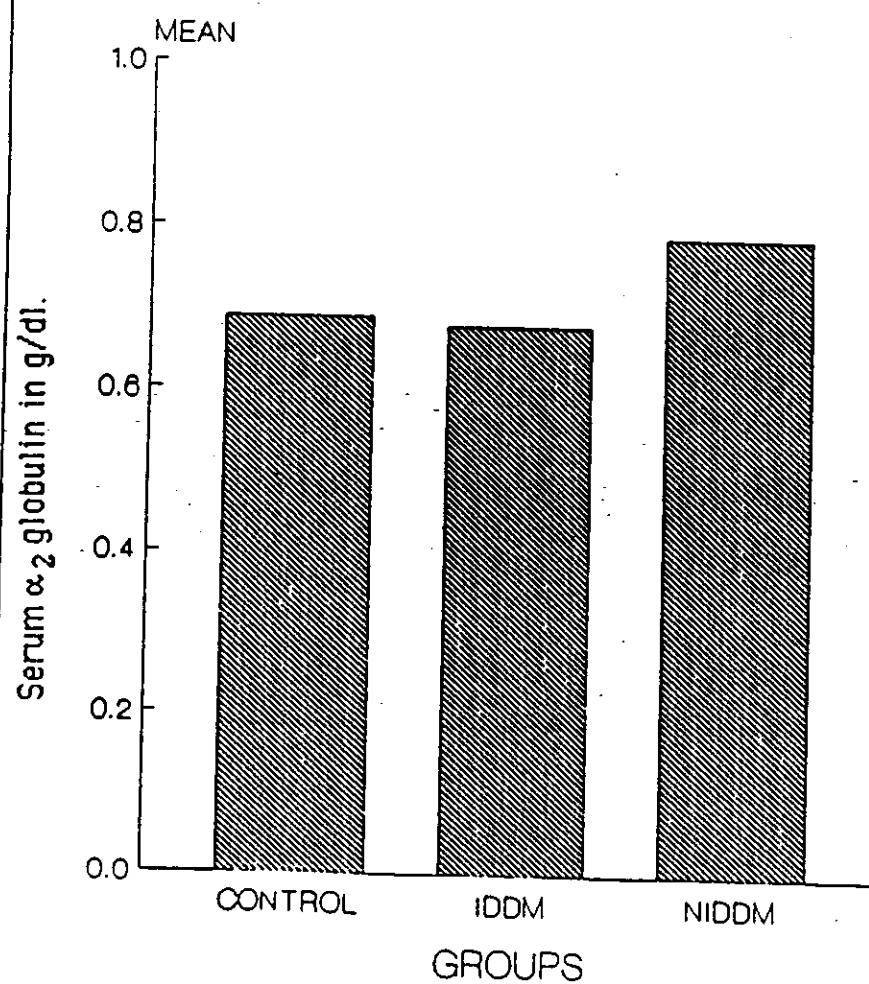
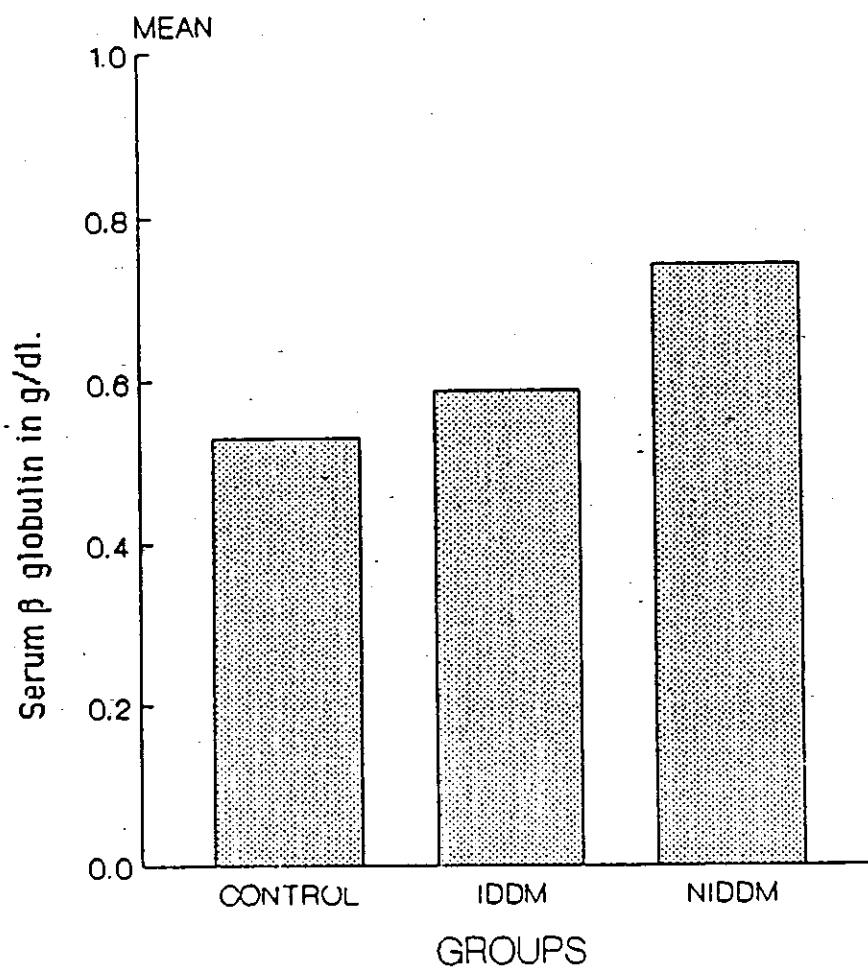


Fig. (10) The mean level of β - globulin
in the different studied groups



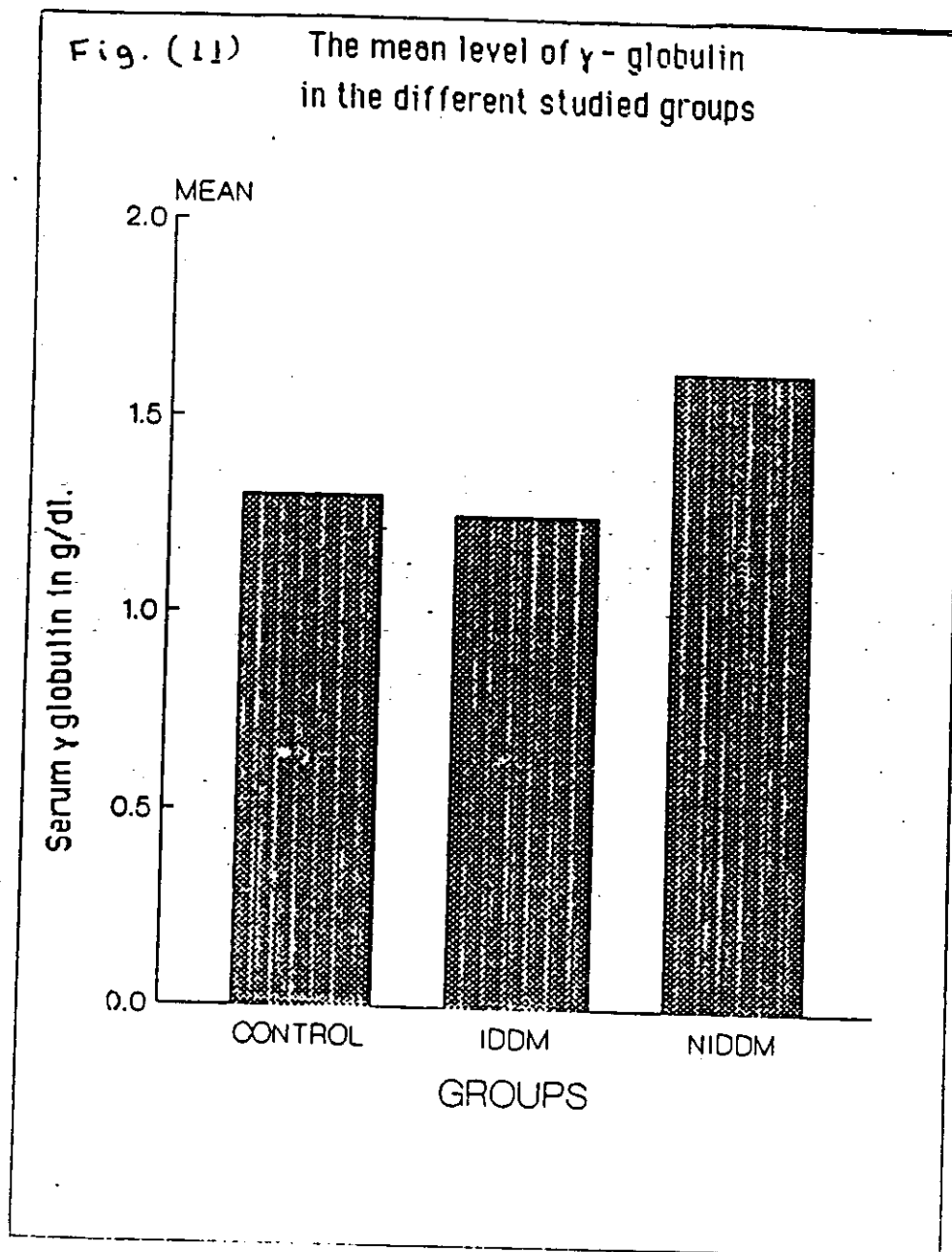
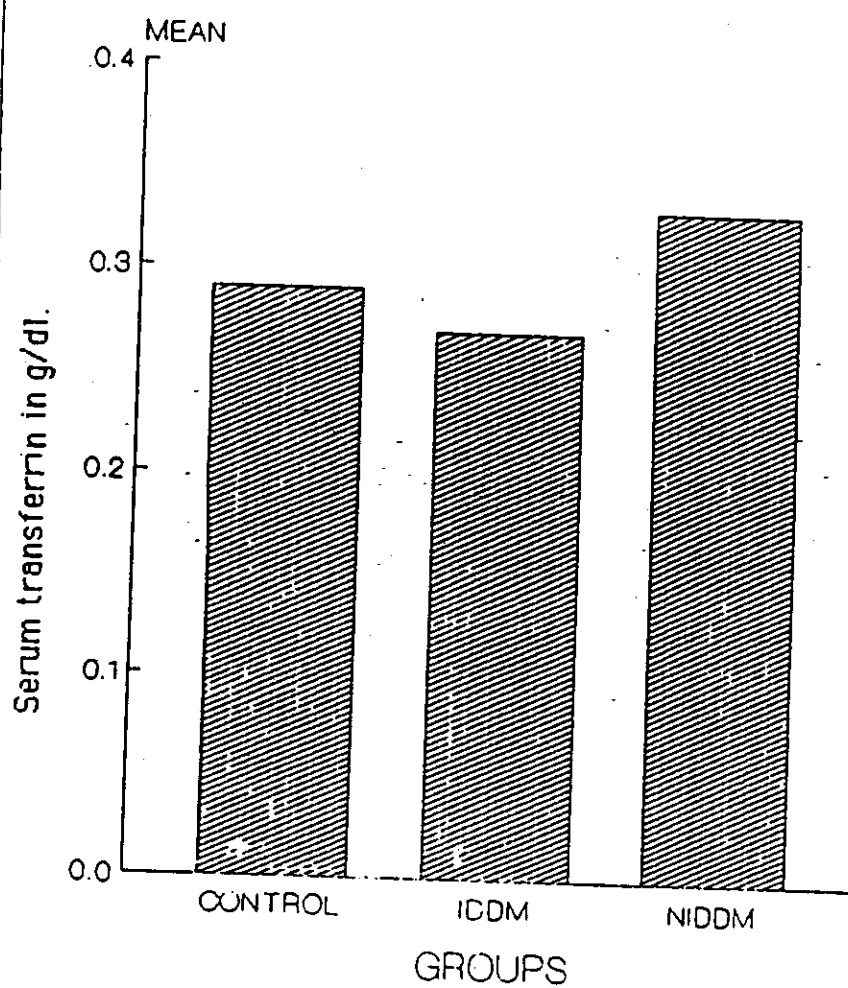


Fig. (12) The mean level of serum transferrin
in the different studied groups



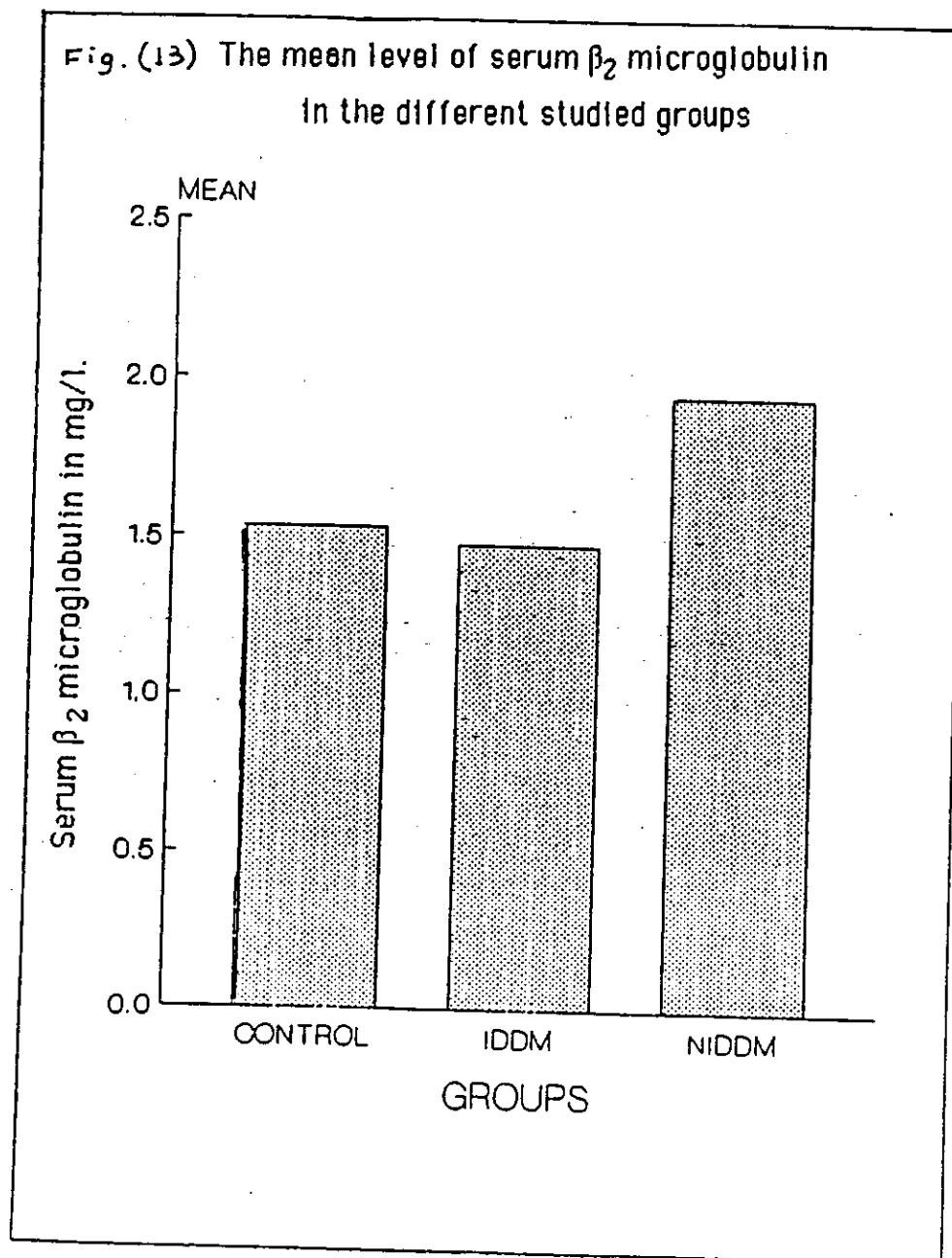


Fig. (14) The mean level of serum Ig G
in the different studied groups

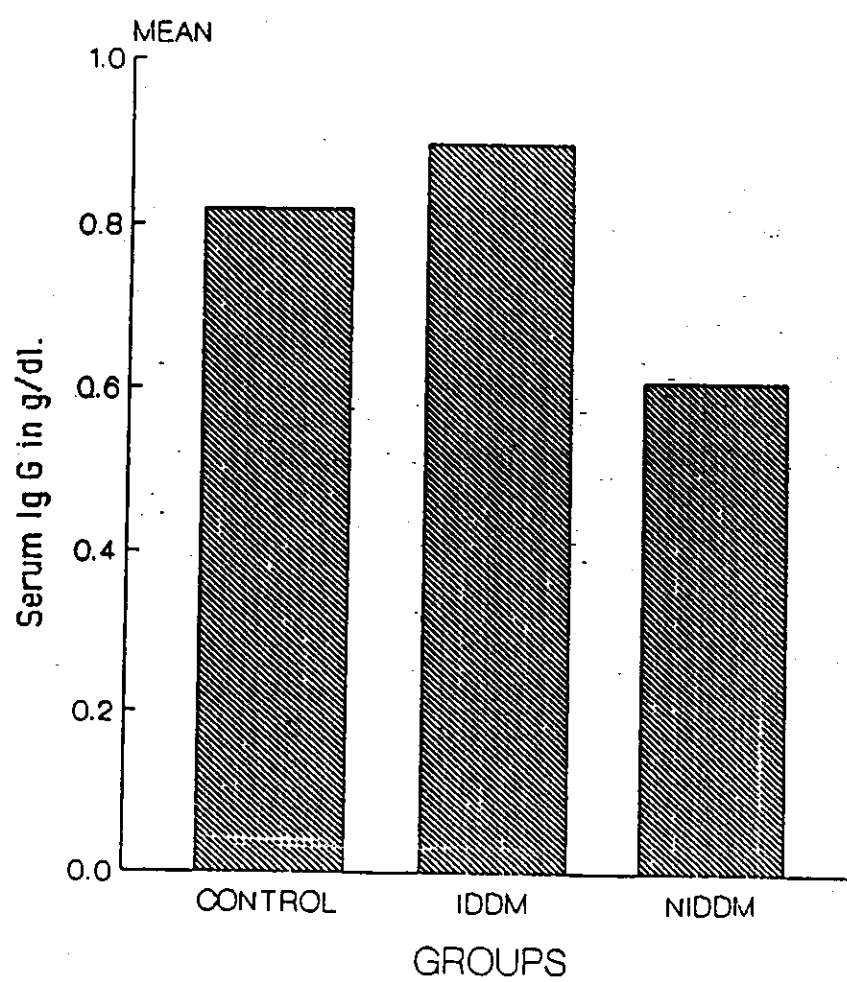


Fig. (15) The mean level of albumin in urine
in the different studied groups

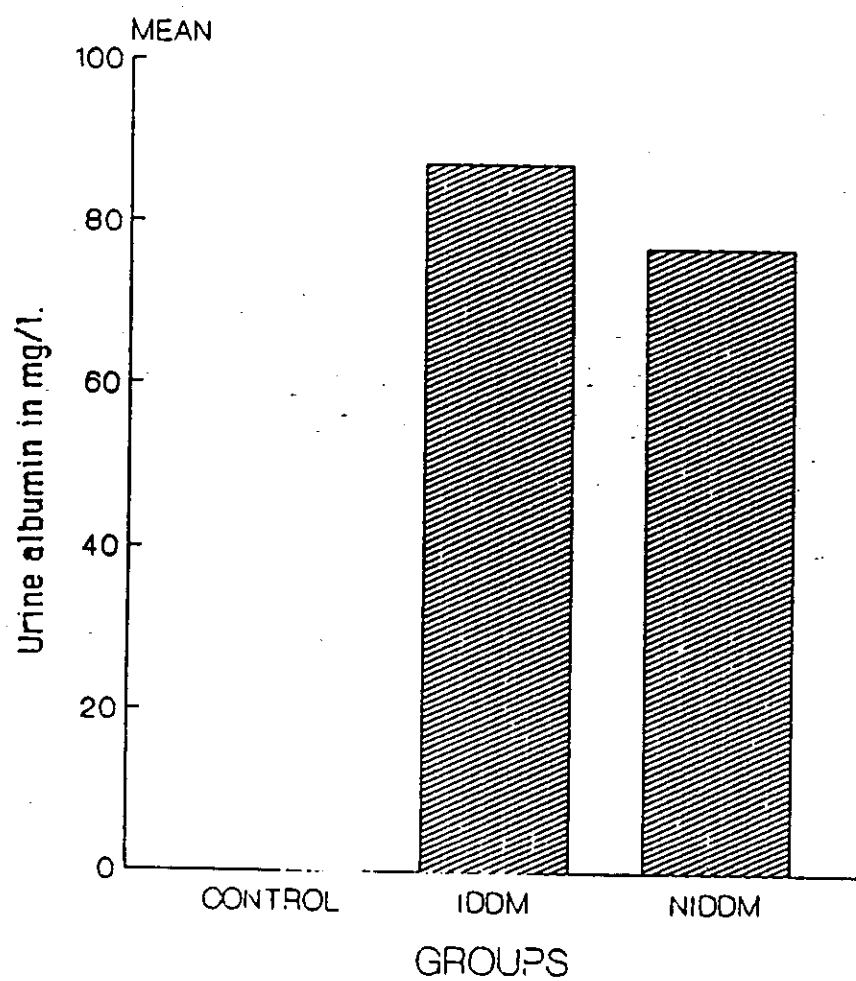
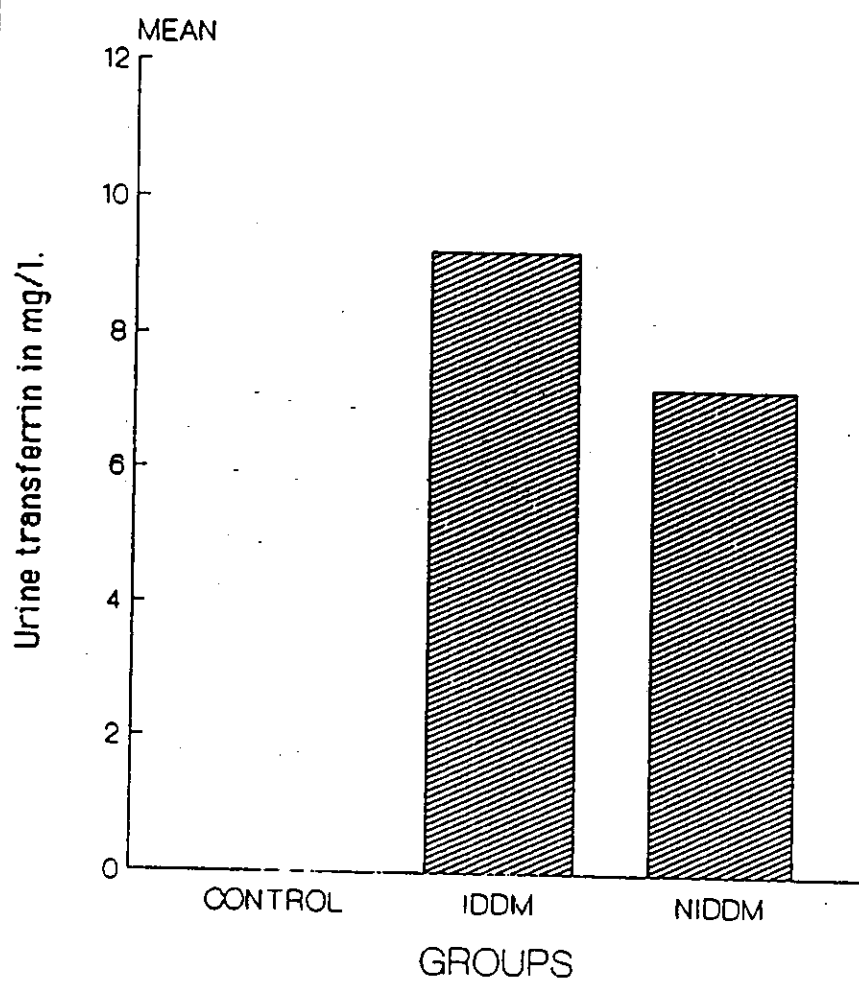


Fig.(16) The mean level of transfferin in urine
in the different studied groups



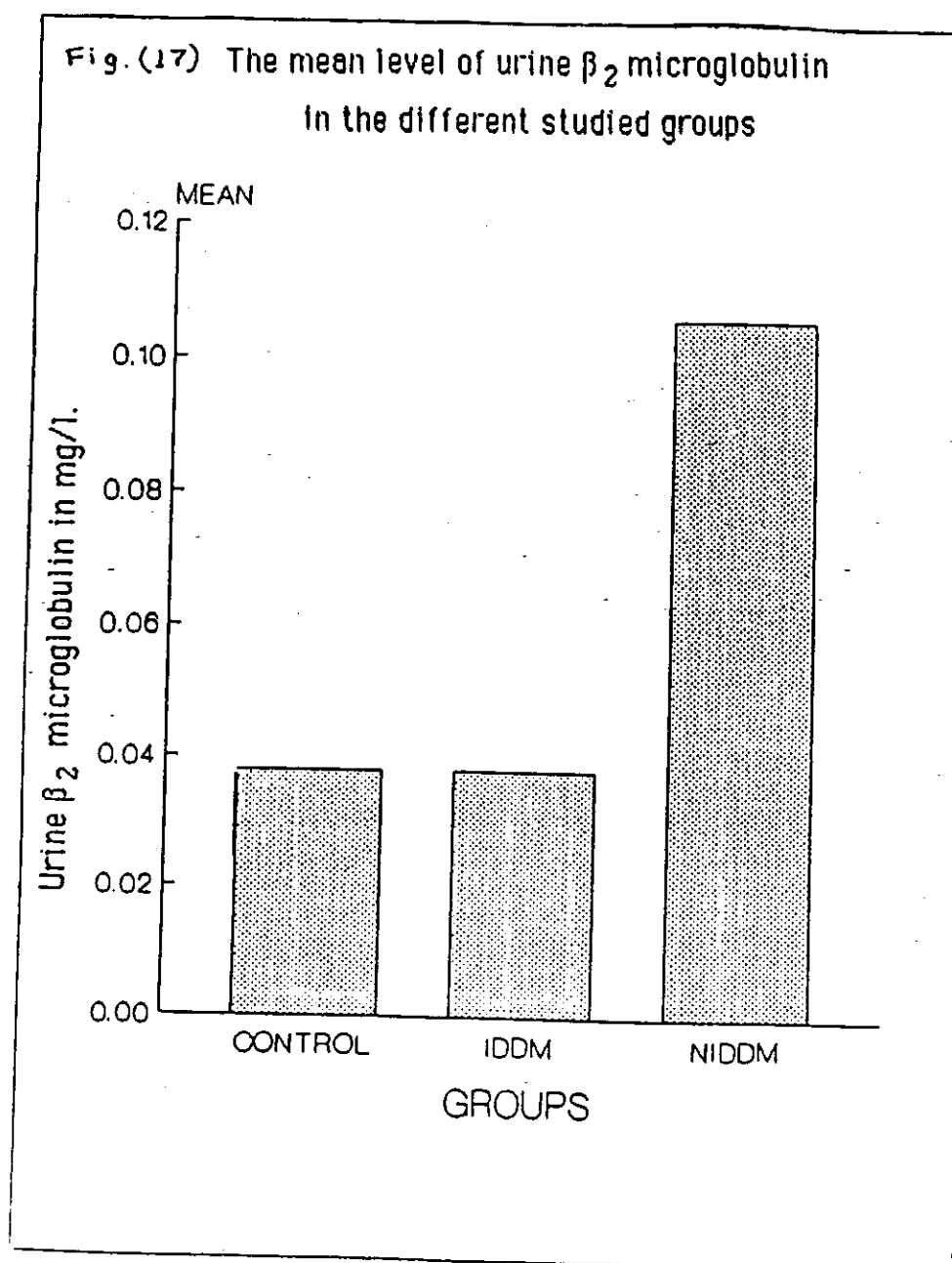
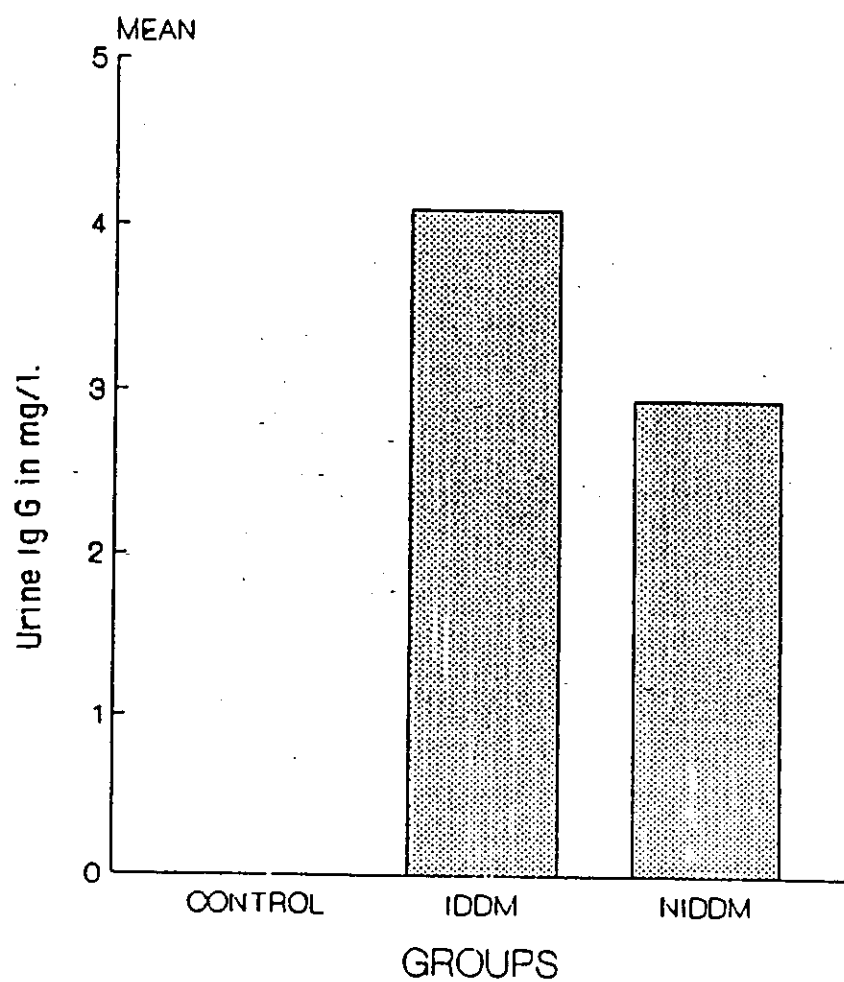
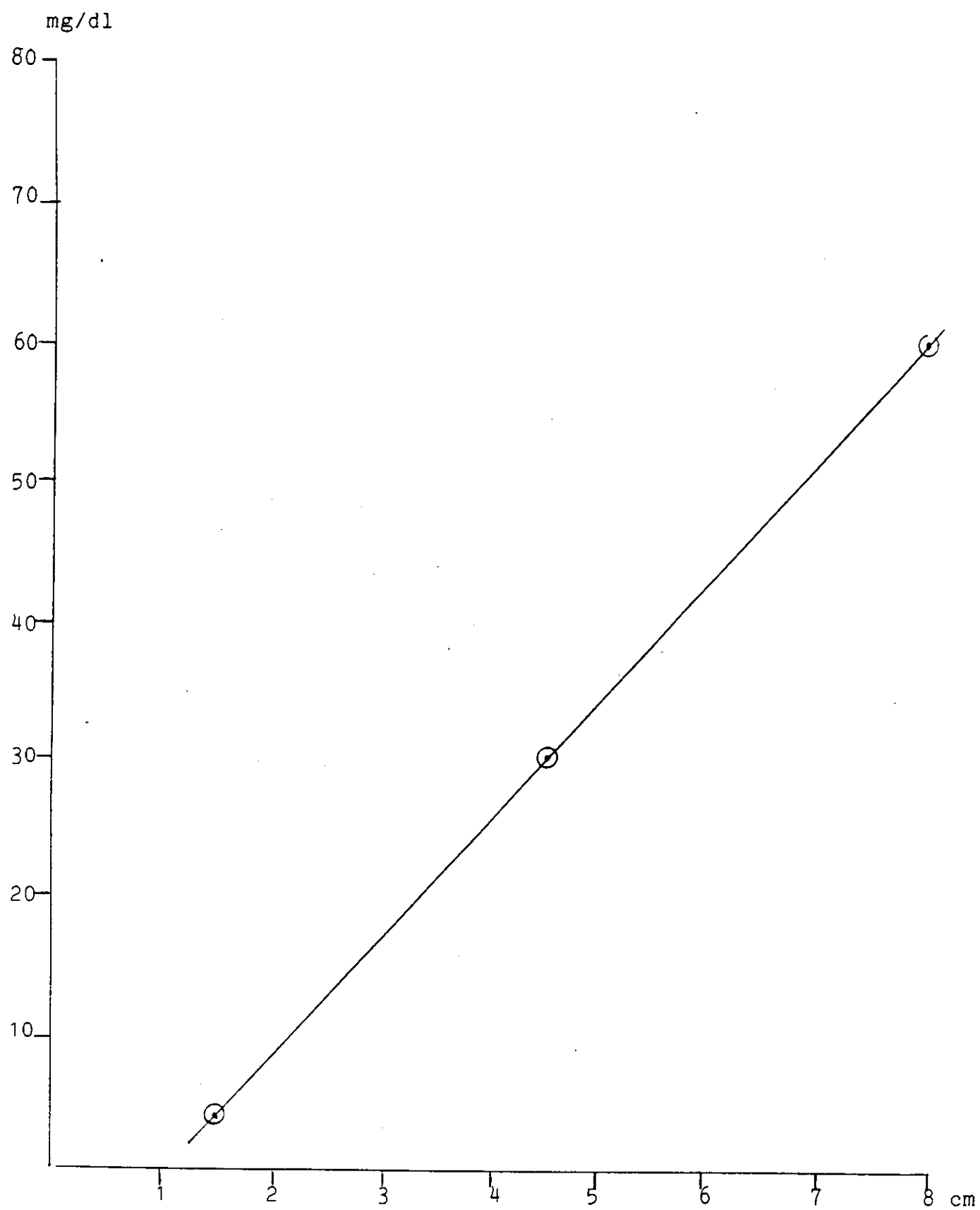


Fig. (18)

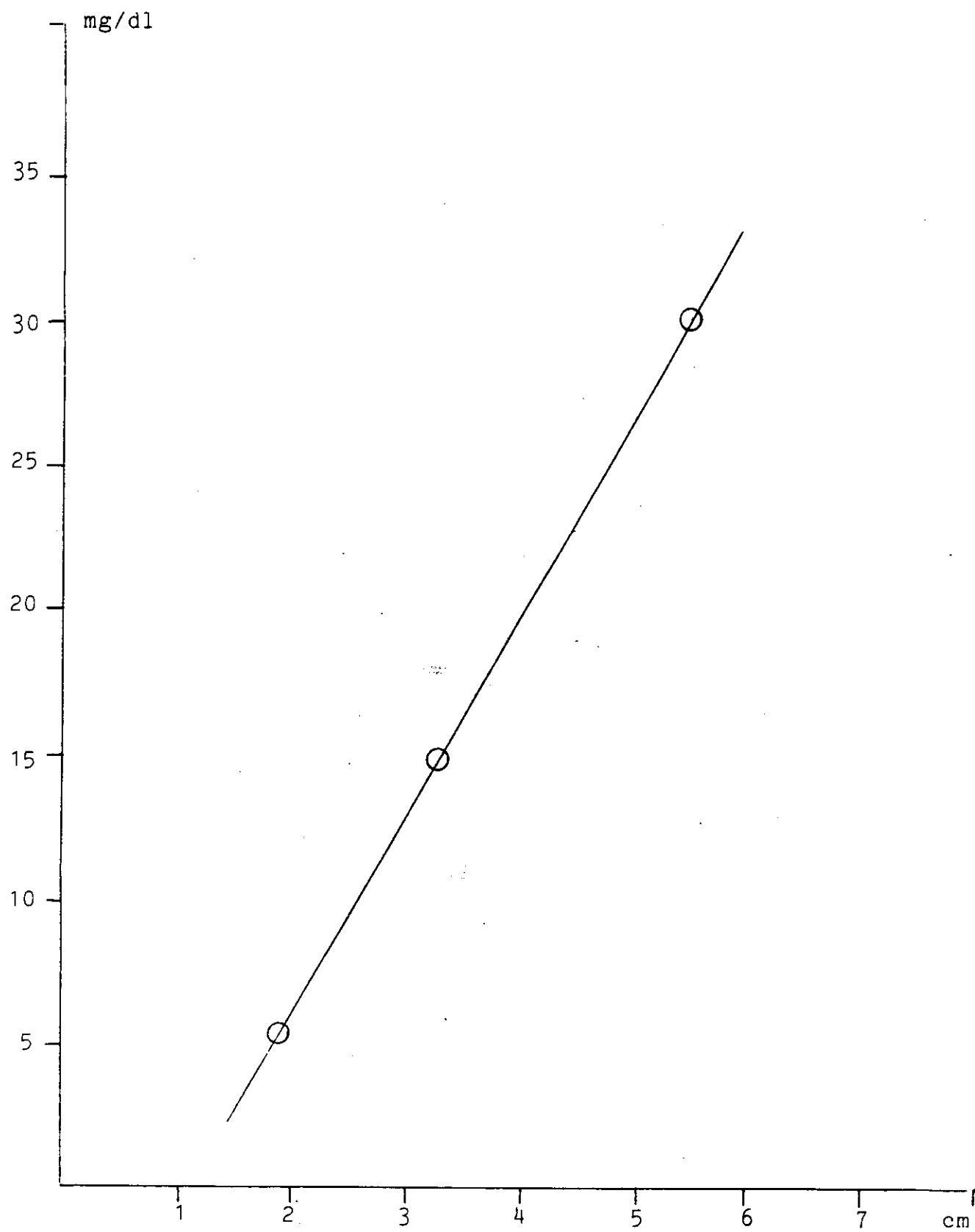
The mean level of Ig G in urine in the
different studied groups



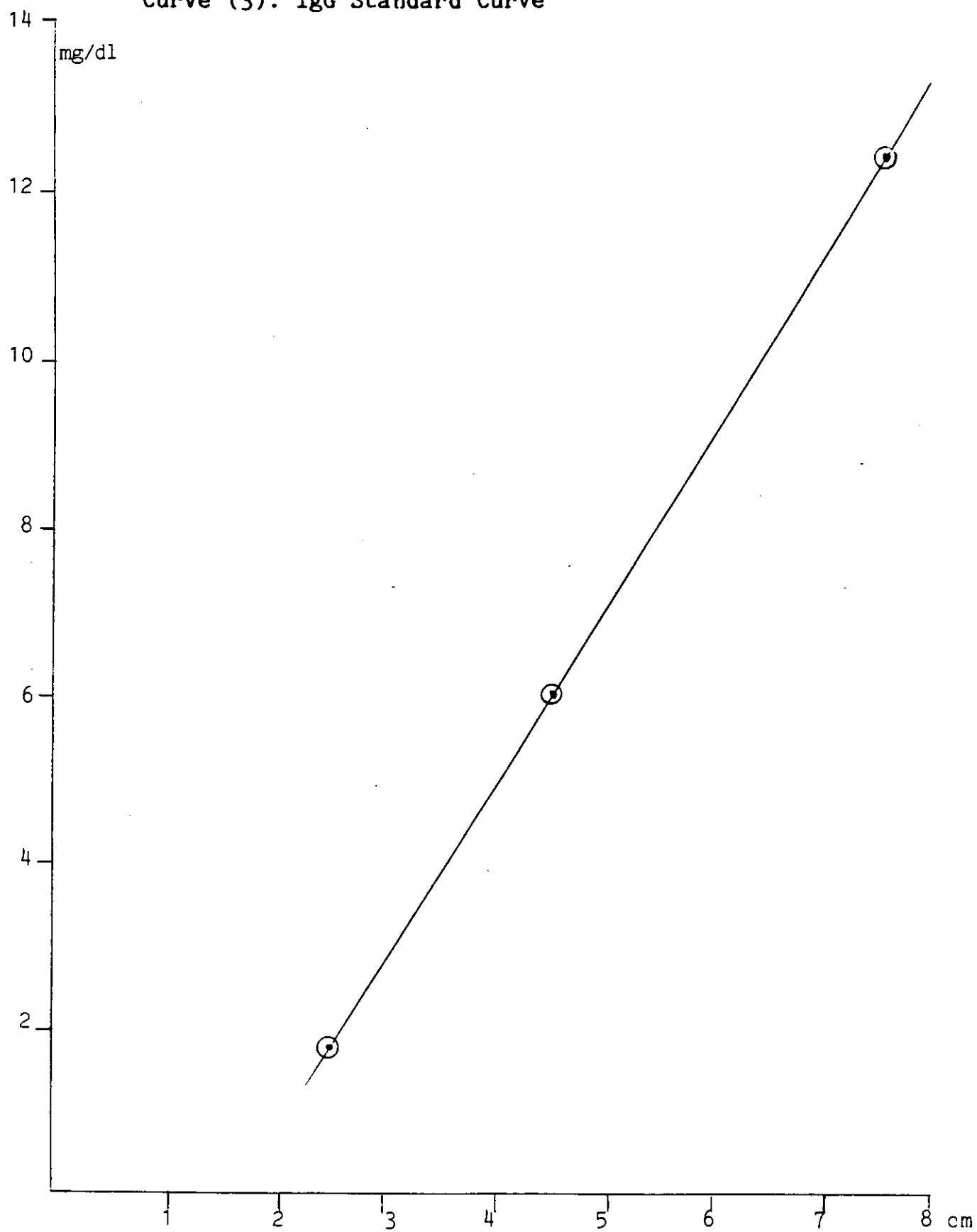
Curve(1): Albumin Standard Curve



Curve (2): Transferrin Standard Curve



Curve (3): IgG Standard Curve



Curve(4): B2 microglobulin standard curve.

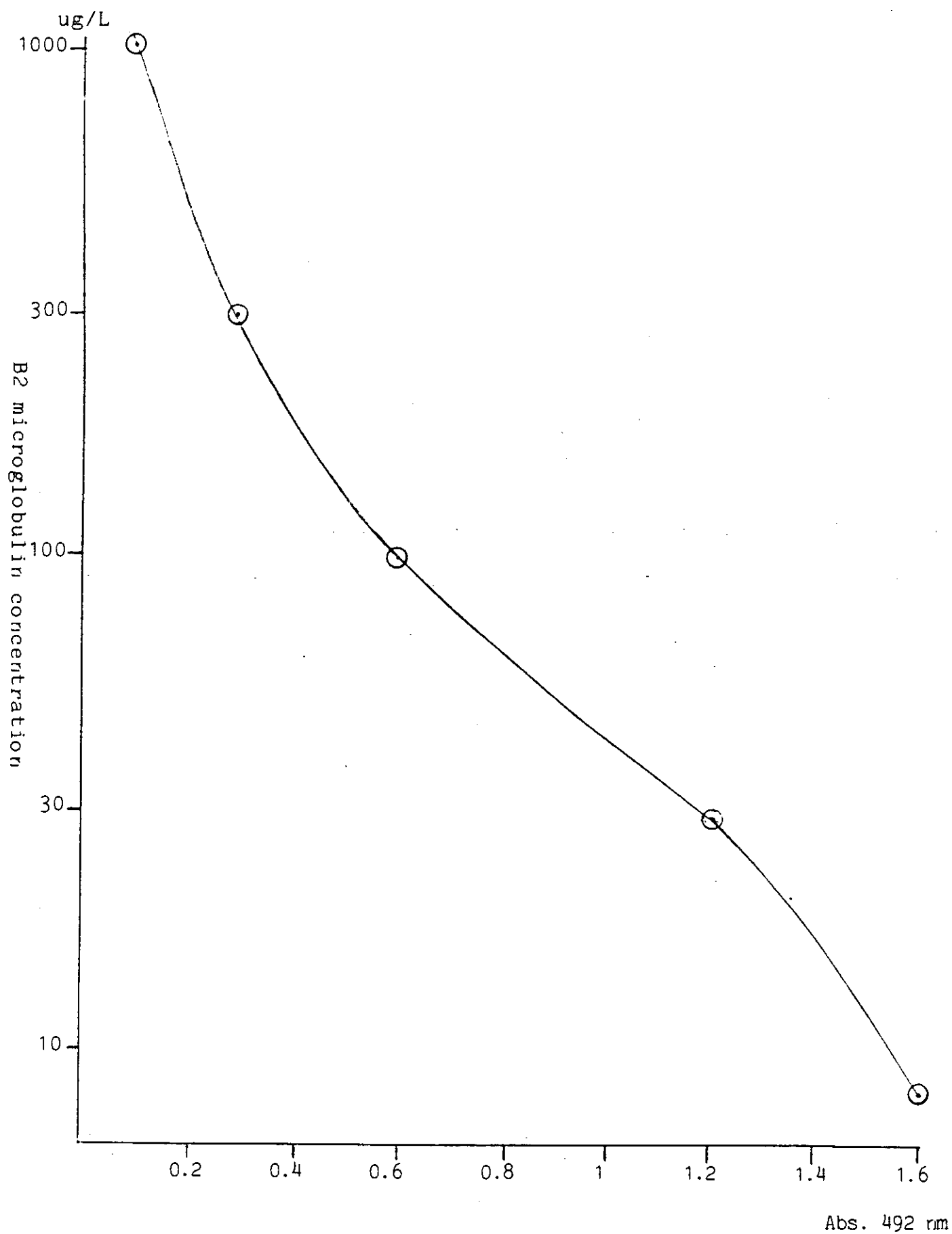




Fig. (21) Standard albumin.

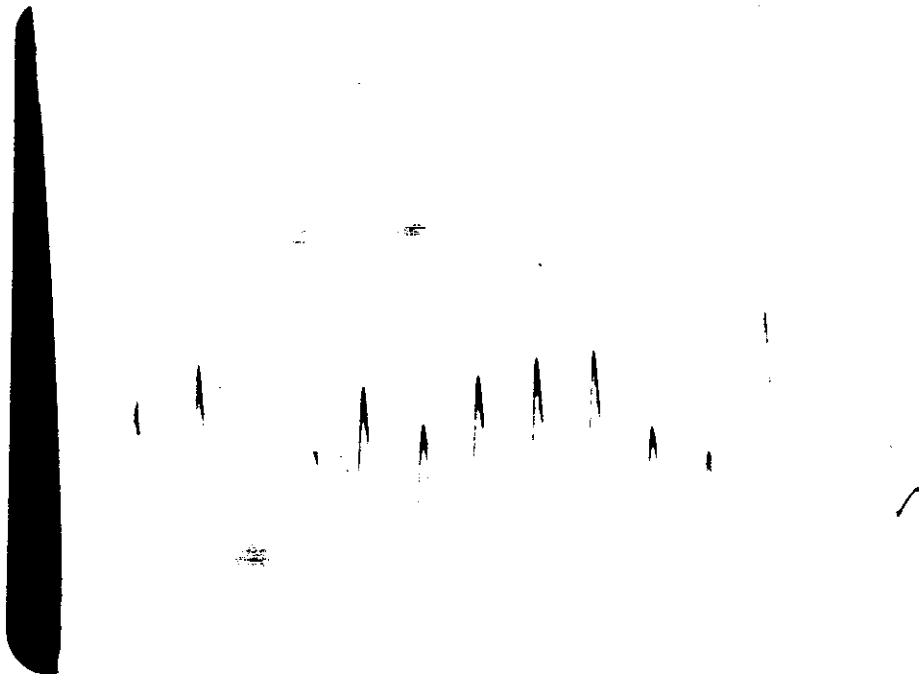


Fig. (22) Serum albumin.



Fig. (23) Urine albumin.



Fig. (24) Standard transferrin.

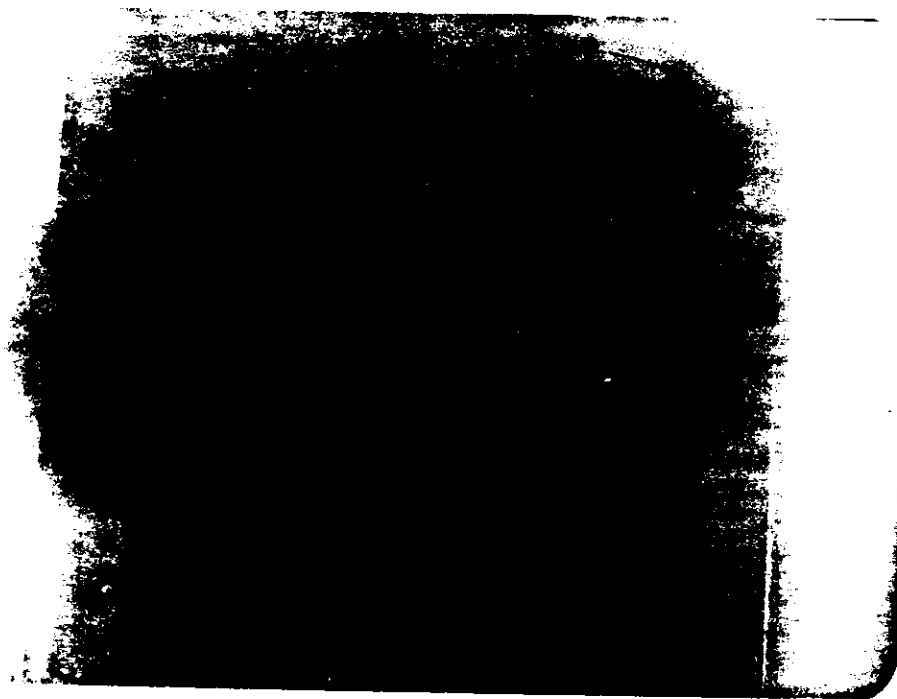


Fig. (25) Serum transferrin.

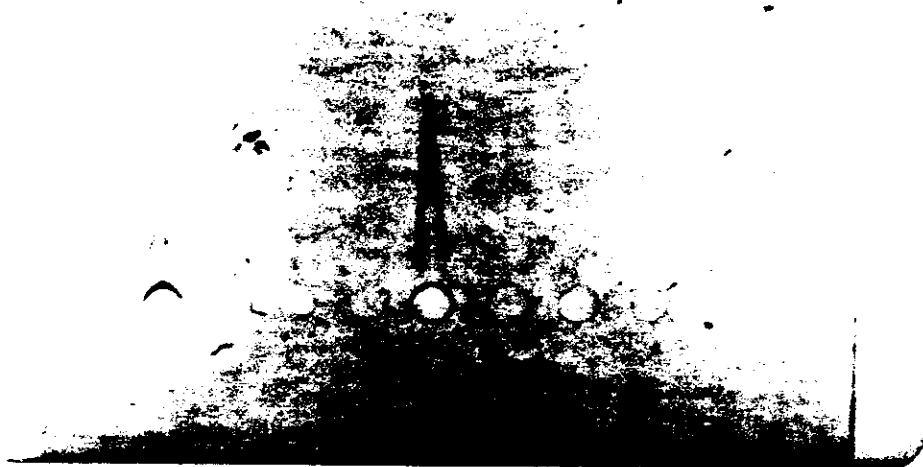


Fig. (26) Urin transferrin.

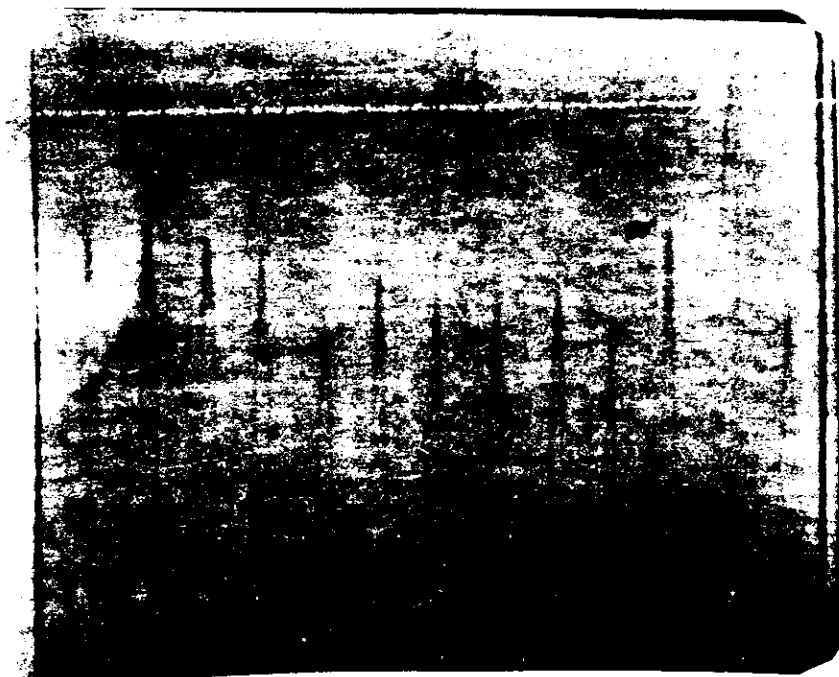


Fig. (27) Standard and serum IgG
(High voltage electrophoresis for 3 hours).

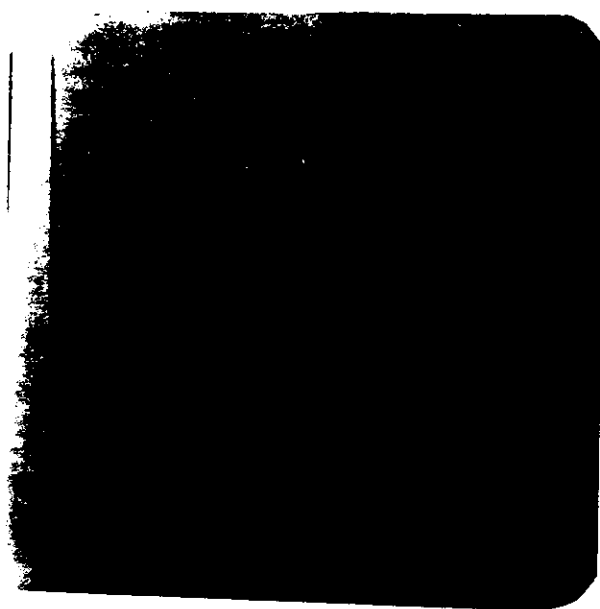


Fig. (28) Standard and serum IgG
(Low voltage electrophoresis for over night).

Fig. (29) Urine IgG
(High voltage electrophoresis for 3 hours).

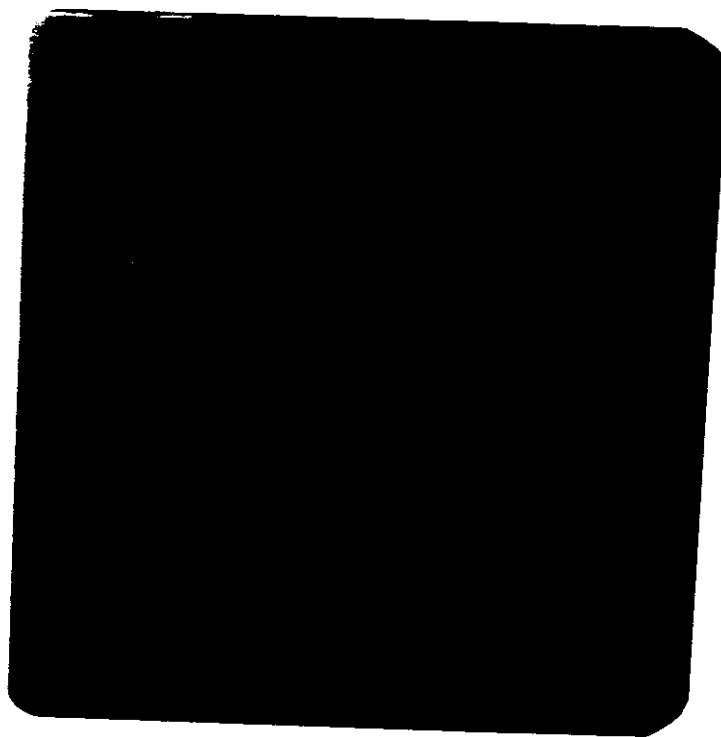


Fig. (30) Urine IgG
(Low voltage electrophoresis for over night).