Clinical data of diabetic patients

No	Age (y)	Sex	Duration of illness (y)	Weight (Kg)	B.P	F.H	Fundus	Other manifestation
1	11	F	4	25.5	110/70	-ve	Free	Loss of weight, Polydipsia
2	13	F	4	29	120/70	-ve	Free	Polyuria, Polydipsia
3	13	M	5	28.5	110/70	-ve	Free	Loss of weight, Recurrent boils
4	18	M	10	38.5	120/80	-ve	P.R	Diminution of vision,polyuria
5	17	M	11	37	115/70	+ve	Free	Recurrent boils, Polyuria
6	18	F	11	43	120/80	-ve	Free	Loss of weight, Polydipsia
7	12	M	9	30	120/80	+ve	Free	Polydipsia, Polyuria
8	13	M	7	35	120/70	+ve	Free	Polyuria, polydipsia
9	16	F	9	36	120/80	-ve	Free	Polyphagia , Loss of weight
10	8	M	7	24	100/60	-ve	Free	Polyuria, Polydipsia
11	11	M	10	30.5	110/80	+ve	Free	Loss of weight, Polydipsia
12	16	M	8	45	120/80	+ve	P.R	Diminution of vision polydipsia
13	15	F	12	42	110/70	-ve	Free	Polyphagia, Polydipsia
14	16	F	12	46	120/80	+ve	Free	Polydipsia, Polyuria
15	18	M	12	51	120/80	+ve	Free	Polyphagia,dryness Of mouth
16	19	M	11	50	120/70	-ve	Free	Dryness of mouth , Polyuria
17	13	F	6	30	110/70	-ve	Free	Polyuria, Poaydipsia
18	10	F	3	26	110/60	-ve	Free	Loss of weight, Polyphagia

RESULTS

The results of the present study are demonstrated in chemical and statistical results tables & figures. Thirty two insulin dependent diabetic children and adolescent were studied , their mean of age 14. 8 ± 2.7 and also 10 control cases were studied , their mean of age 14.5 ± 2.5

In table (1) we demonstrate. the comparison between diabetic patients and control groups.

From this table we can notice that the age is not significantly higher in diabetic patients 14.8 ± 2.7 (year) than in control 14.5 ± 2.5 (year) $P<0.05$ is significant. Fasting blood sugar is significantly higher in diabetic patients 196.2 ± 36.1(mg /dl)than control 77.5 ± 6 (mg /dl) $P < 0.001$. Sialic acid is significantly higher in diabetic patients , 8 ± 27.6 than control 70 . 3 ± 7 p <o.ool

In table (2) there is a comparison between diabetic patients with complications & diabetic patients without complications.

From this table we can notice that .the fasting blood sugar is significantly higher in diabetics with complications 233.7 ± 25.4 (mg /dl) than diabetics without complications 181.6 ±28.3 P< 0.001. The glyco-haemoglobin was significantly higher in diabetics with complications 9.7 ± 0.5 than diabetics without complications 7.4 ± 0.9 P < 0.001 . The creatinine was significantly higher in diabetics with complications 0.9 ± 0.2 than diabetics without complications 0.7 ± 0.1 P< 0.001. The sialic acid is significantly higher in diabetics with complications 119.3 ± 37.1 than diabetics without complications 80.9 ± 11.9 P< 0.001. The cholesterol was significantly higher in diabetics with complications 193.2 ± 12.3 than

diabetics without complications 160.9 ± 11.2 P< o.oo1. The age is higher in diabetics with complications 17.2 ± 1 (year) than diabetics without complications 13. ± 2.5 (year) P<0.001. The duration of the disease was significantly higher in diabetics with complications 10.3 ± 1.4 (year) than diabetics complications 6.1 ± 2.4 (year) P<0.001 .

In table (3) there is a comparison between diabetic patients with complications & control.

From this table we can notice that the fasting blood glucose is significantly higher in diabetics with complications 233.7 ± 25.4 than control 77.5 ± 6 (mg /dl) P<0.001) . The sialic acid is significantly higher in diabetics with complications 119.3 ± 37.1 than control 70.3 ± 7 P<0.001. The age is significantly higher in diabetics with complications 17.2 ± 1.1 (year) than control 12.2 ± 2.5 (year) P<0.001.

In table (4) there is a comparison between diabetic patients without complications &with control .

From this table we can notice that the fasting blood glucose is significantly higher in diabetics without complications 181.6 ± 28.3 (mg /dl) than control 77.5 ± 6 (mg /dl) p<0.001. The sialic is significantly higher in diabetics without complications than control 70.3 ± 7 P<0.001. The age is higher in diabetics without complications 13.8 ± 2.5 (year) than control 13.2 ± 2.5 (year) P> 0.05 is non significant

In table (5) there is correlation study between sialic acid & all studied parameters among patients.

From this table we can notice that: there is positive significant correlation between sialic acid and fasting blood glucose, creatinine , HBA 1C ., cholesterol , age & duration of the disease i.e. when sialic acid increase , the previous parameters are increased.

In table (6) there is correlation study between sialic acid & all studied parameters among control.

From this table we can notice that : there is non significant correlation between sialic acid & all studied parameter among control.

In table (7) there is a comparison between diabetics & control groups as regarding sex distribution.

From this table we can notice that : there is non significant difference between diabetics and control as regarding sex distribution.

Comparison between diabetic patients with complications &diabetic patients without complications groups

Parameter	With Complications Mean ± S.D.	Without complications Mean ± S.D	P	Sign.
Age	17.2 ± 1.1	13.8 ± 2.5	< .001	H.S.
FBG.	233.7 ± 25.4	181.6 ± 28.3	<.001	H.S.
HBA 1 C	9.7 ± 0.5	7.4 ± 0.9	<.001	H.S.
Creatinine	0.9 ± 0.2	0.7 ± 0.1	<.001	H.S.
Sialic acid	119.3 ± 37.1	80.9 ± 11.9	<.001	H.S.
Cholesterol	193.2 ± 12.3	160.9 ± 11.2	<.001	H.S.
Duration	10.3 ± 1.4	6.1 ± 2.4	<.001	H.S.

Table (2)

Sig. = Significance
H.S. = Highly Significant.
FBG = Fasting blood glucose
HBA1C = Glyco – Haemoglobin

Comparison between diabetic patients with complications and control groups

Parameter	With complications Mean ± S.D.	Control Mean ± S.D.	P	Sig.
Age	17.2 ± 1.1	13.2 ± 2.5	< .001	H.S.
FBG	233.7 ± 25.4	77.5 ± 6	< .001	H.S.
Sialic acid	119.3 ± 37.1	70.3 ± 7	< .001	H.S.

Table (3)

H.S. = Highly significant
FBG = Fasting blood glucose.

Comparison between diabetic patients without complications & with control groups

Parameter	Without Complications Mean ± S.D	Control Mean ± S.D	P	Sign.
Age	13.8 ± 2.5	13.2 ± 2.5	<0.05	N.S.
FBG	181.6± 28.3	77.5 ± 6	<0.001	H.S.
Sialic acid.	80.9 ± 11.9	70.3 ± 7	<0.001	H.S .

Table (4)

N.S. = Non significant
H.S. = Highly significant.
FBG = Fasting blood glucose

Correlation study between sialic acid & all studied parameters among patients group

Parameter	r	Significance
Age	0.44878	+S
FBG	0.36724	+S
HBA1C	0.45178	+S
Creatinine	0.42405	+S
Cholesterol	0.50817	+S
Duration	0.30853	+S

Table (5)

+S = Positively significant
r = Correlation coefficient

Correlation study between sialic acid & all studied parameters among control group

Parameter	r	Significance
Age	0.35586	Non Significant
FBG	0.25360	Non Significant

Table (6)

r = Correlation coefficient

FBG = Fasting blood glucose

Comparison between diabetics & control groups as regarding sex distribution

Groups	Parameter	Z. Value	P	Sig.
With Complications & With out Complications	Male Female	0.519 0.519	>0.05 >0.05	N.S N.S
With Complications & control	Male Female	0.343 0.343	>0.05 >0.05	N.S N.S
Without Complications & Control	Male Female	0.183 0.183	>0.05 >0.05	N.S N.S
Diabetic Patients & Control	Male Female	0.065 0.065	>0.05 >0.05	N.S N.S

Table (7)

N.S = Non significant

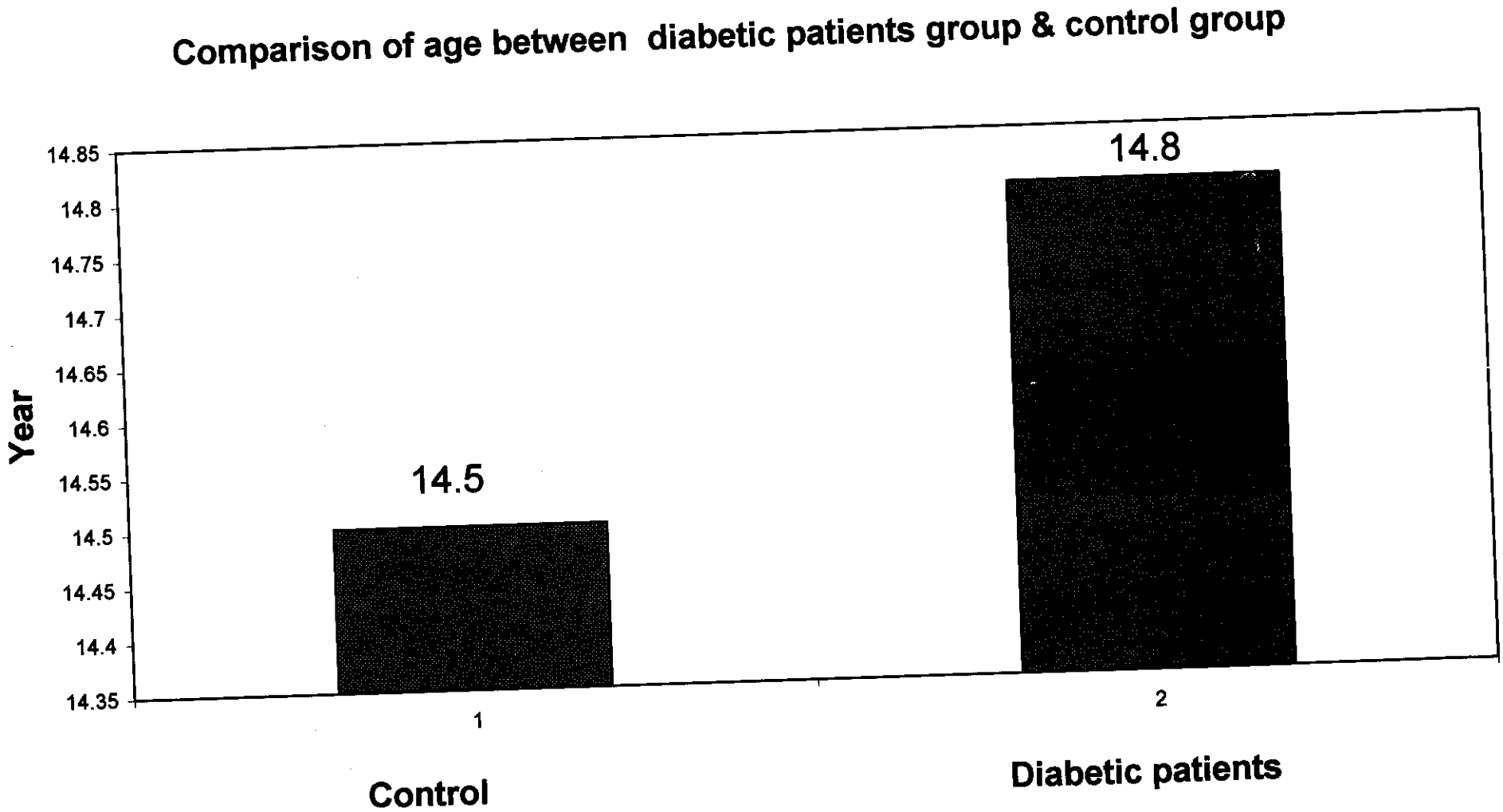
Comparison of age between diabetic patients group & control group
Year
14.85
14.8
14.75
14.7
14.65
14.6
14.55
14.5
14.45
14.4
14.35
14.5
14.8
1
2
Control
Diabetic patients

fig. (1)

Comparison of fasting blood sugare between diabetic parients group and control group

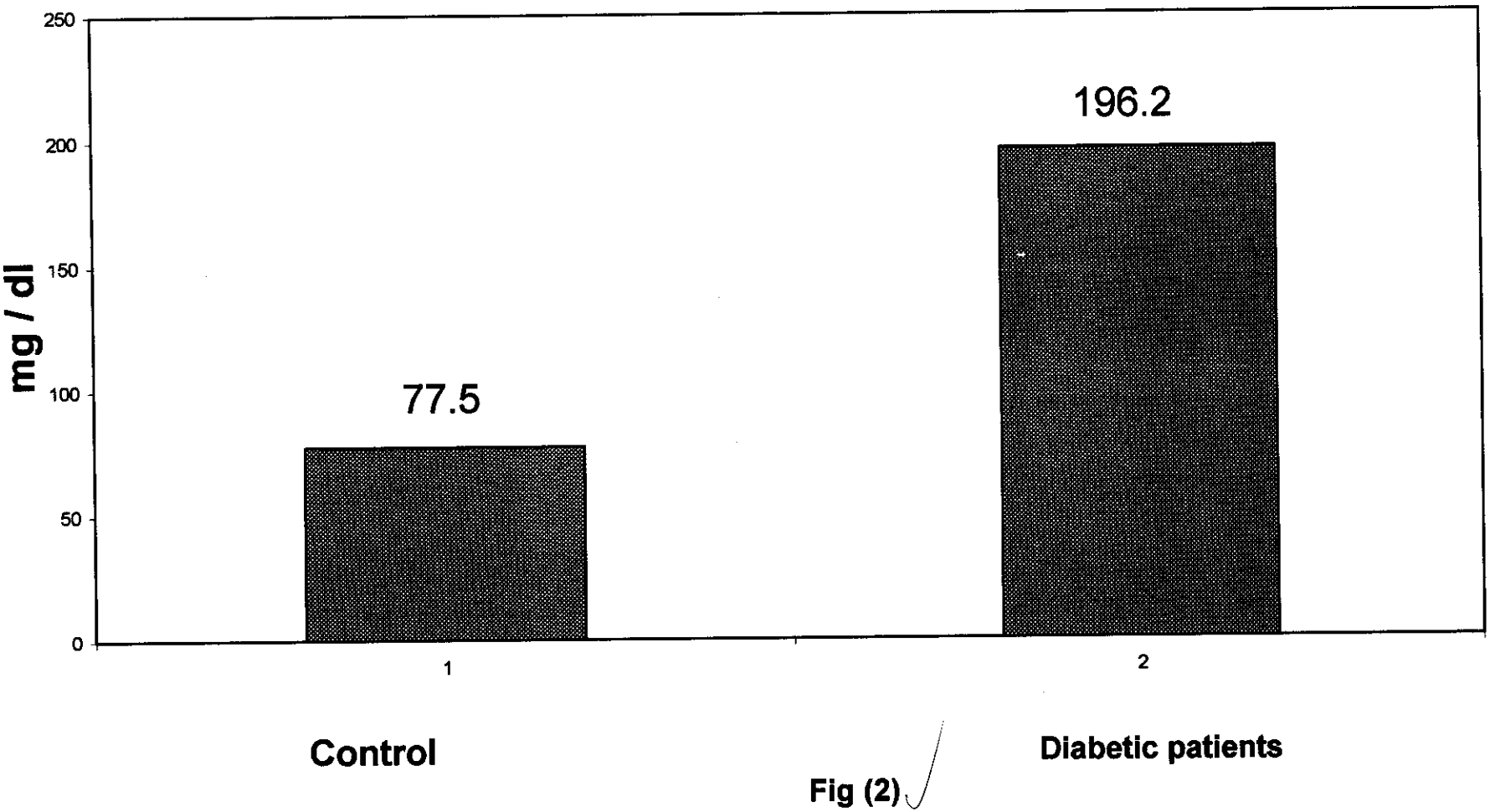

Fig (2)

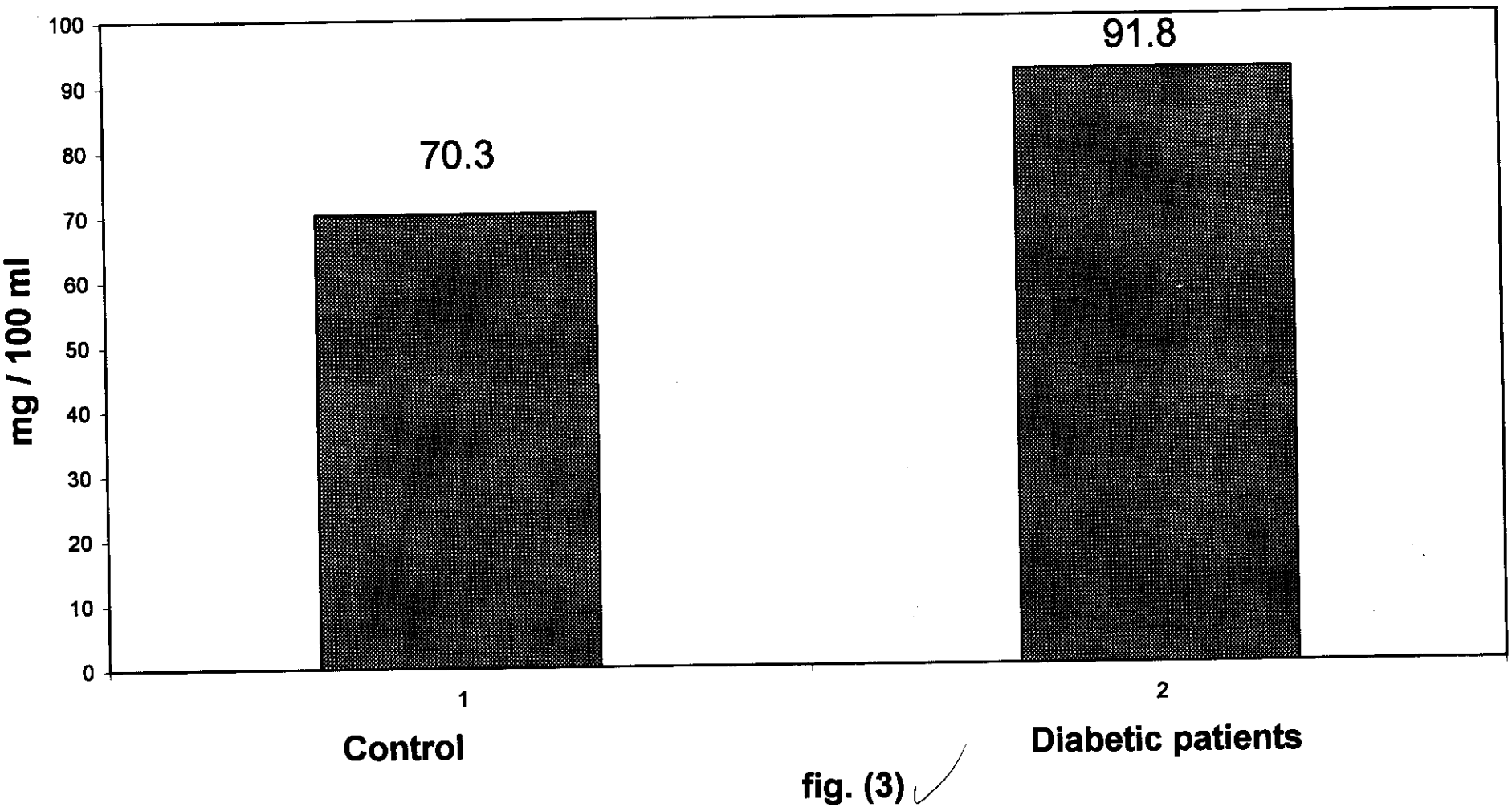
Comparison of S.A. between diabetic patients group & control group
100
90
80
70
60
50
40
30
20
10
0
mg / 100 ml
70.3
91.8
1
2
Control
Diabetic patients

fig. (3)

Comparison of age between diabetic patients with complications &diabetic patients without complications groups

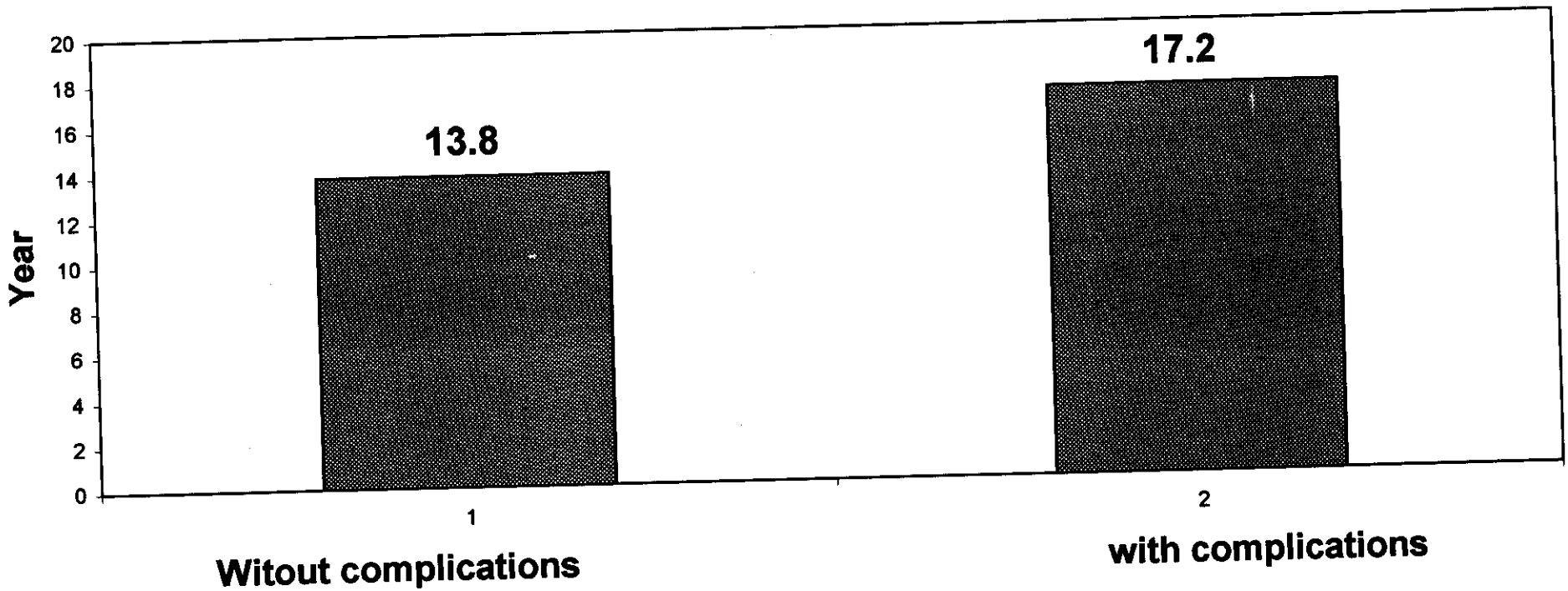

Fig .(4)

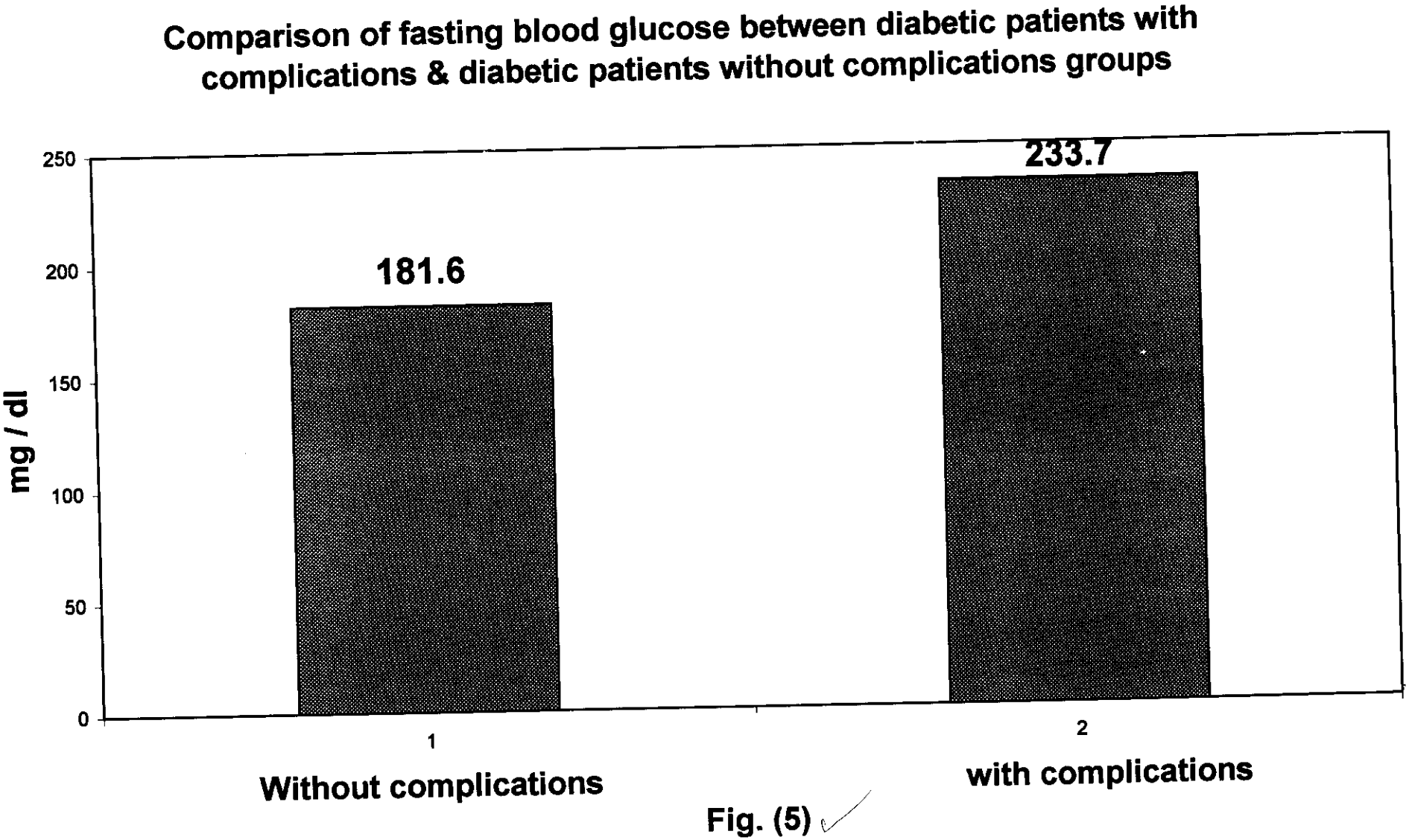
Comparison of fasting blood glucose between diabetic patients with complications & diabetic patients without complications groups
250
200
150
100
50
0
mg / dl
181.6
233.7
1
2
Without complications
with complications

Fig. (5)

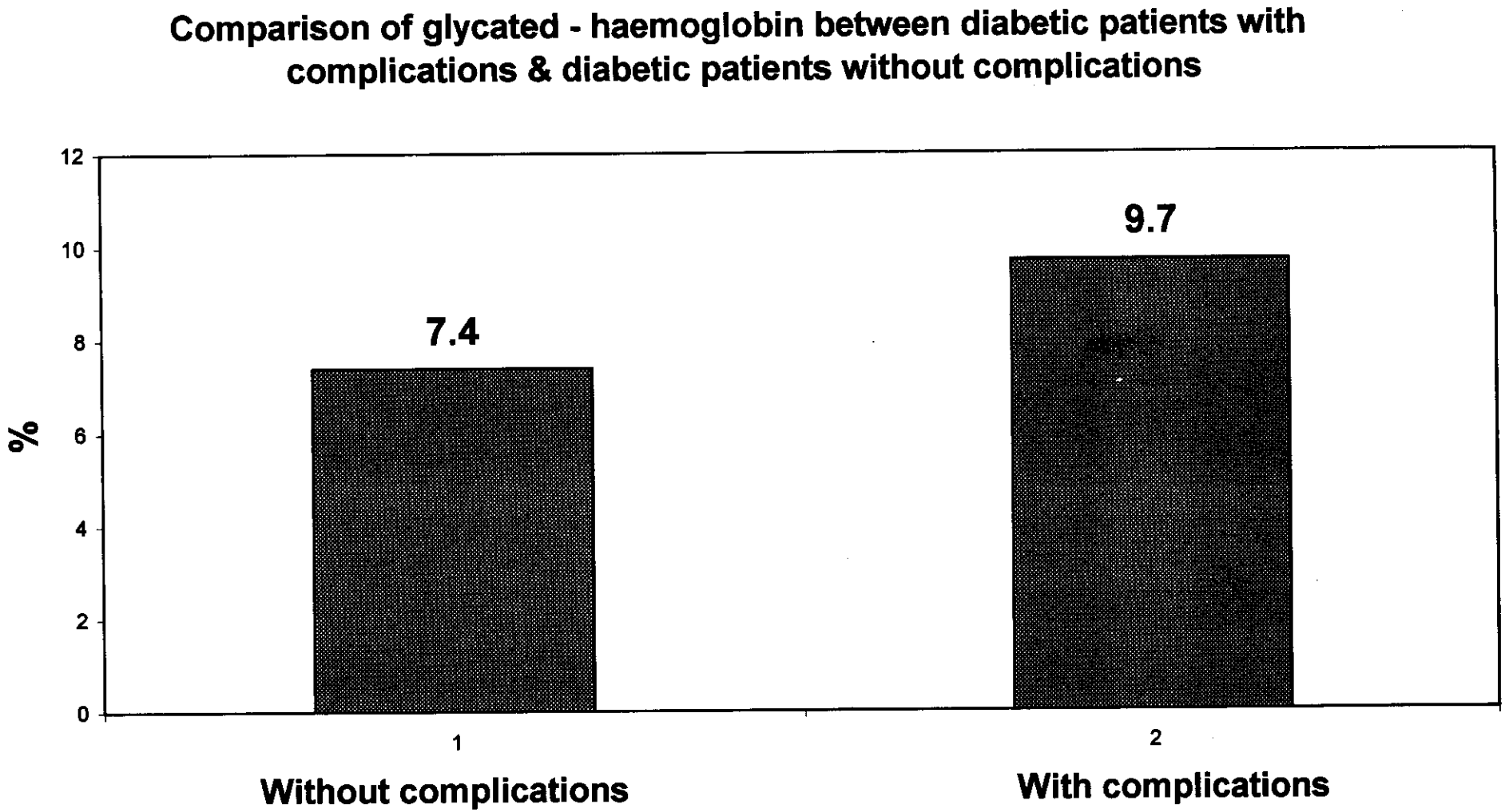
Comparison of glycated - haemoglobin between diabetic patients with complications & diabetic patients without complications
12
10
8
6
4
2
0
%
7.4
9.7
1
2
Without complications
With complications

Fig. (6)

Comparison of creatinine between diabetic patients with complications & diabetic patients without complications groups

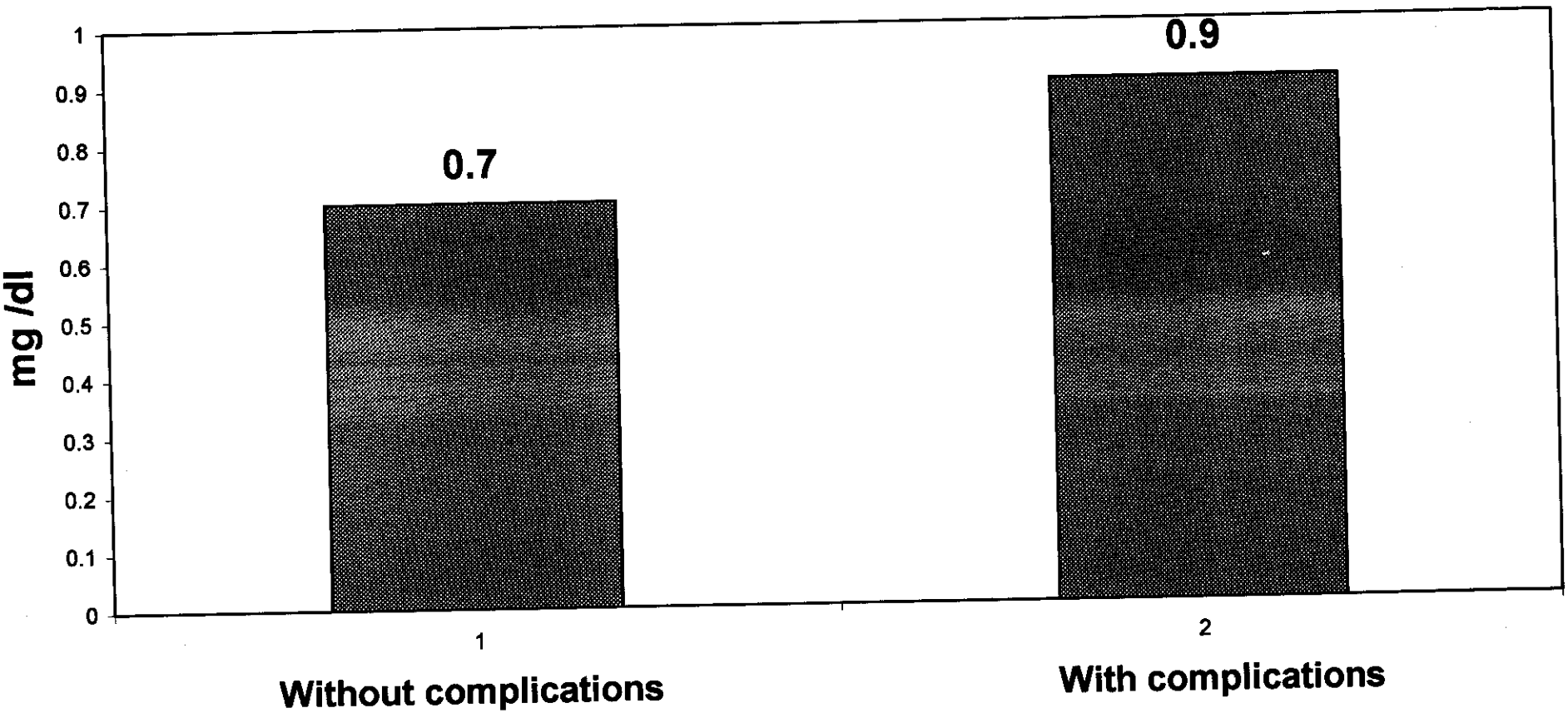

Fig. (7)

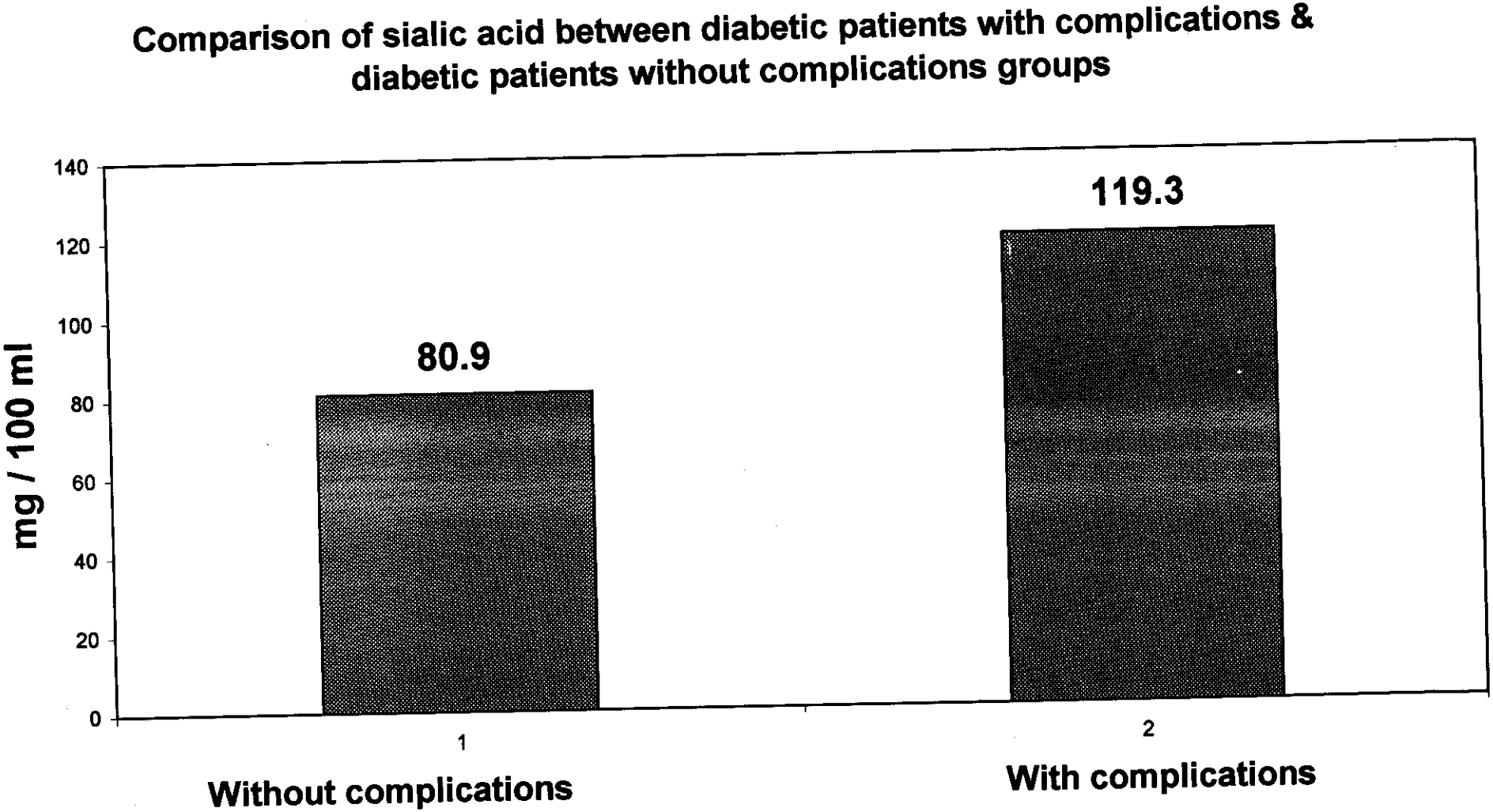
Comparison of sialic acid between diabetic patients with complications & diabetic patients without complications groups
mg / 100 ml
140
120
100
80
60
40
20
0
80.9
119.3
1
2
Without complications
With complications

Fig. (8)

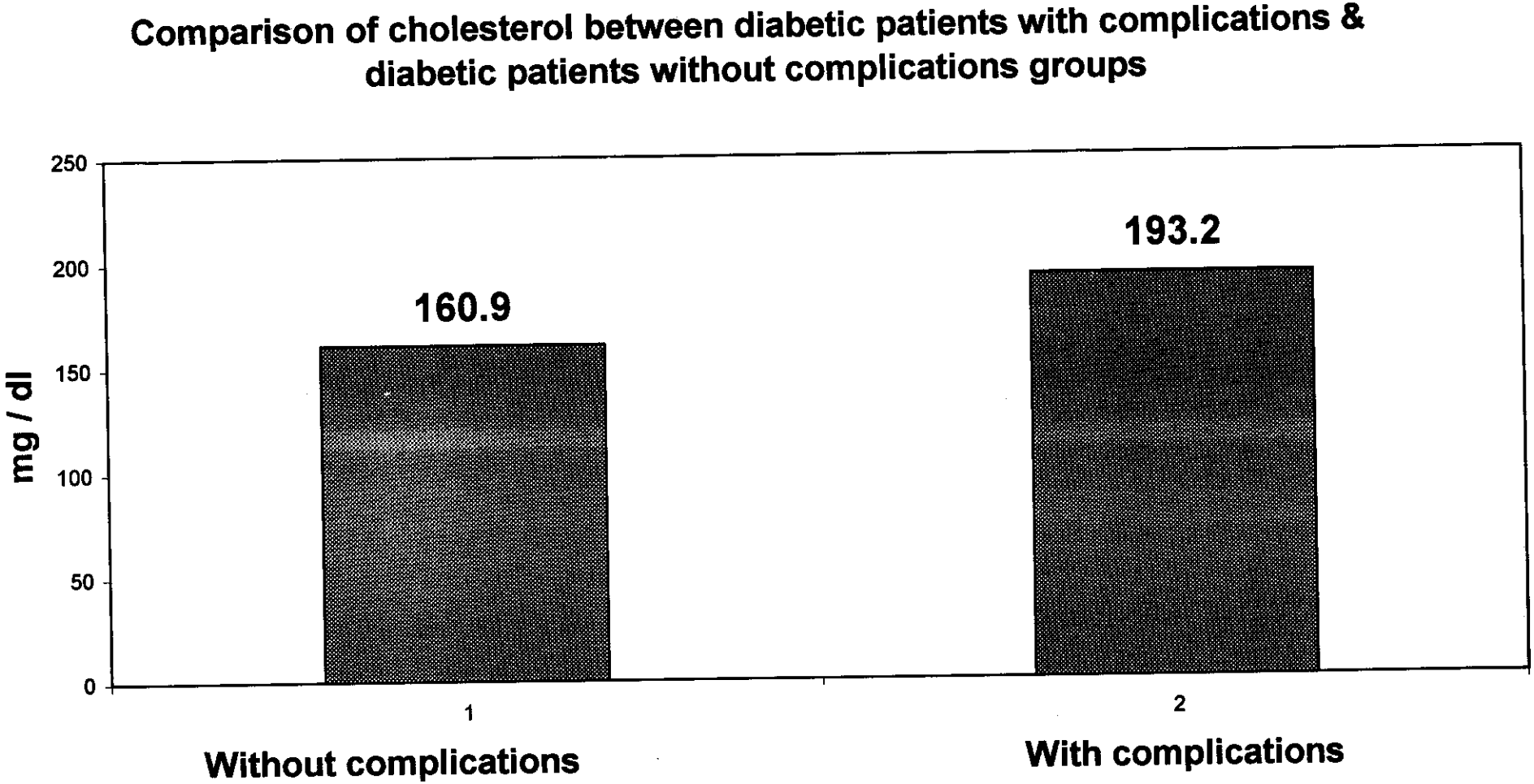
Comparison of cholesterol between diabetic patients with complications & diabetic patients without complications groups
250
200
150
100
50
0
mg / dl
160.9
193.2
1
2
Without complications
With complications

Fig. (9)

Comparison of the duration of the disease between diabetic patients with complications & diabetic patients without complications groups

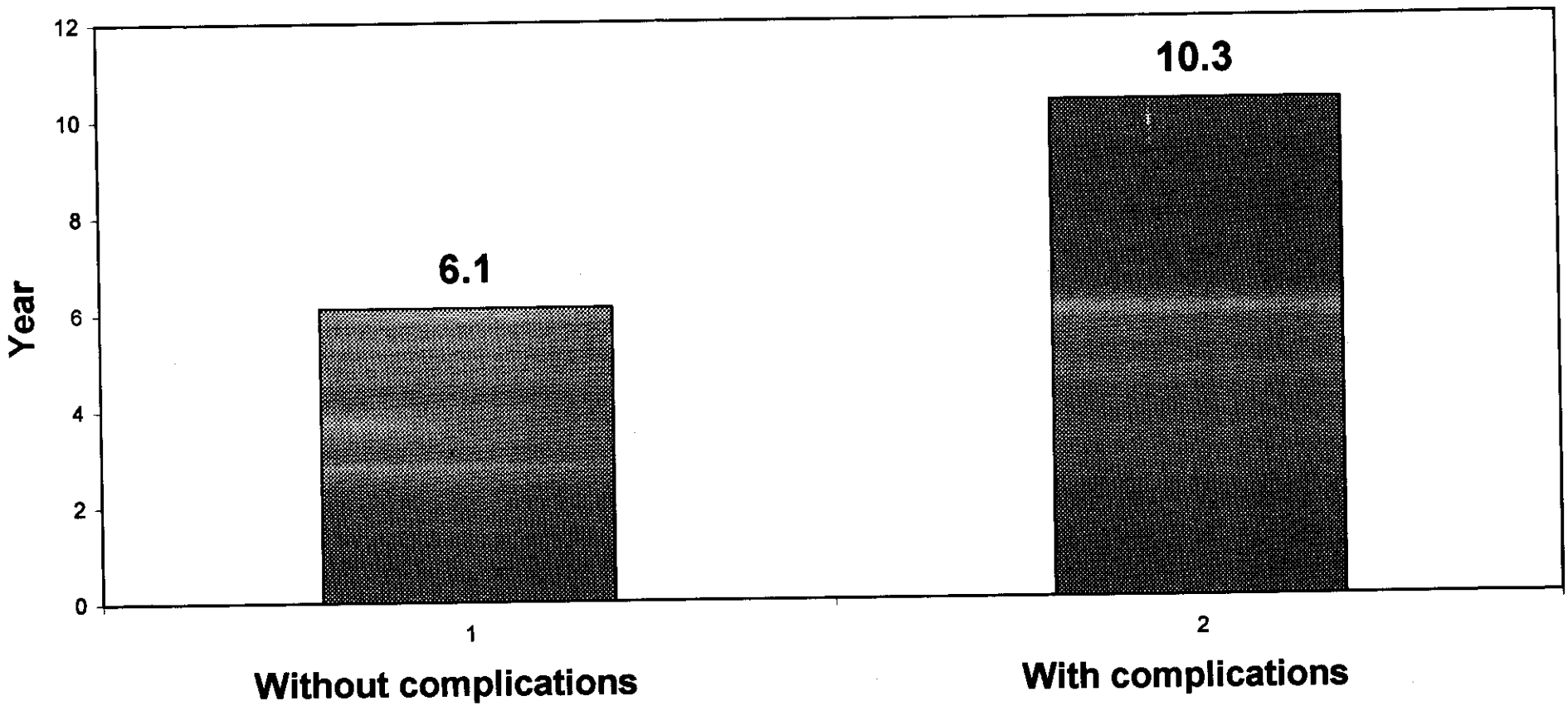

Fig. (10)

Comparison of age between diabetic patirents with complications & control groups

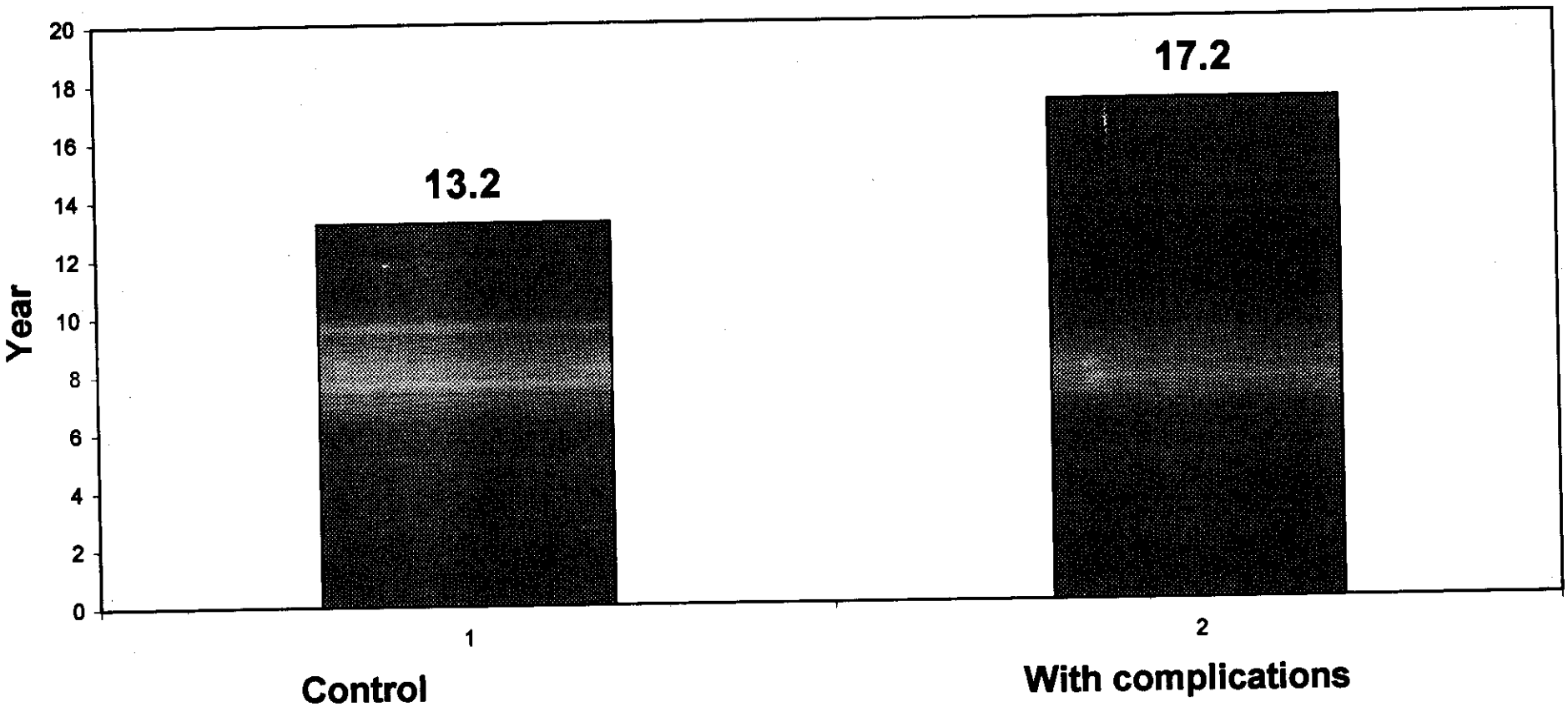

Fig (11)

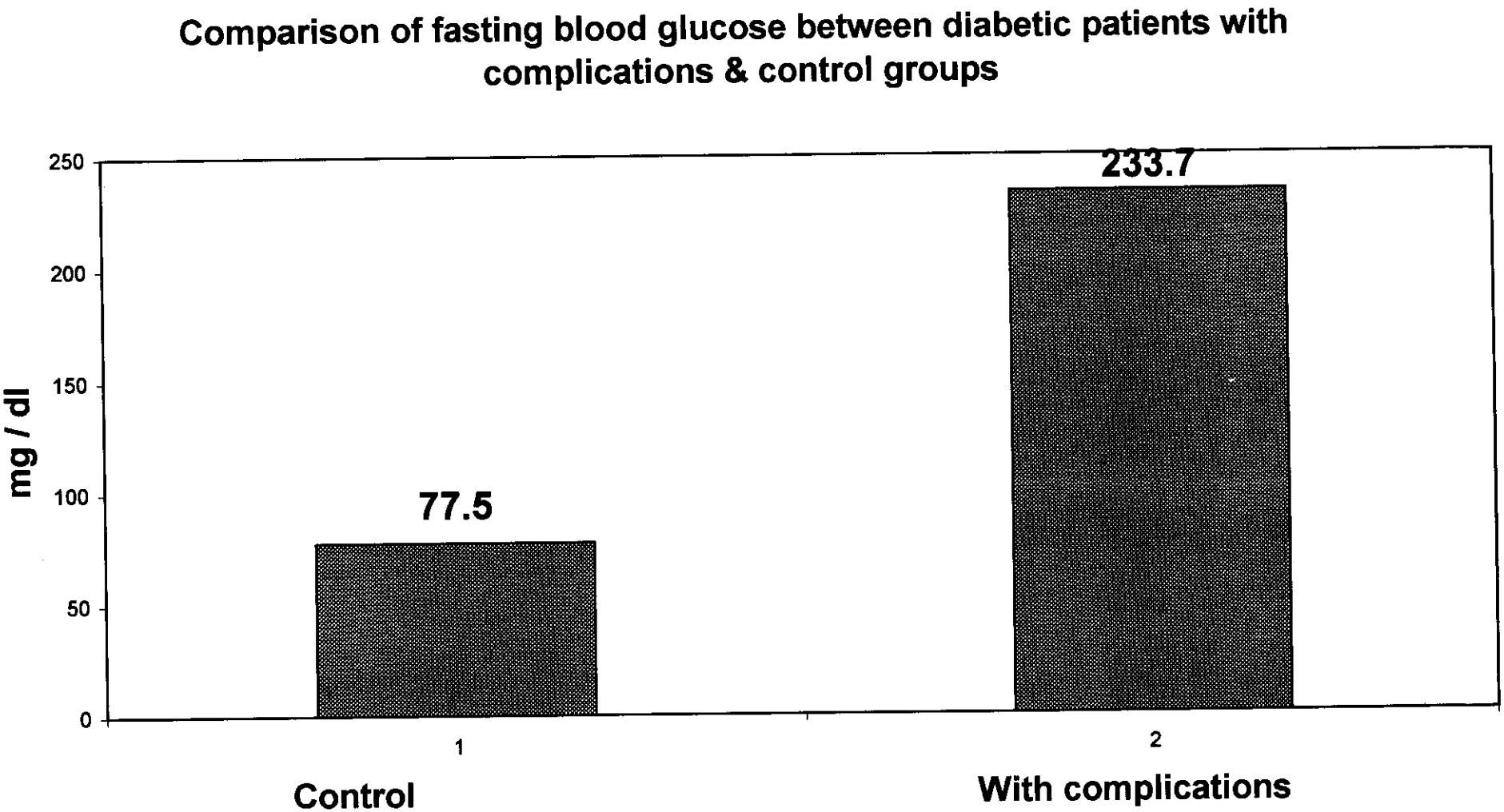
Comparison of fasting blood glucose between diabetic patients with complications & control groups
250
200
150
100
50
0
mg / dl
77.5
233.7
1
2
Control
With complications

Fig. (12)

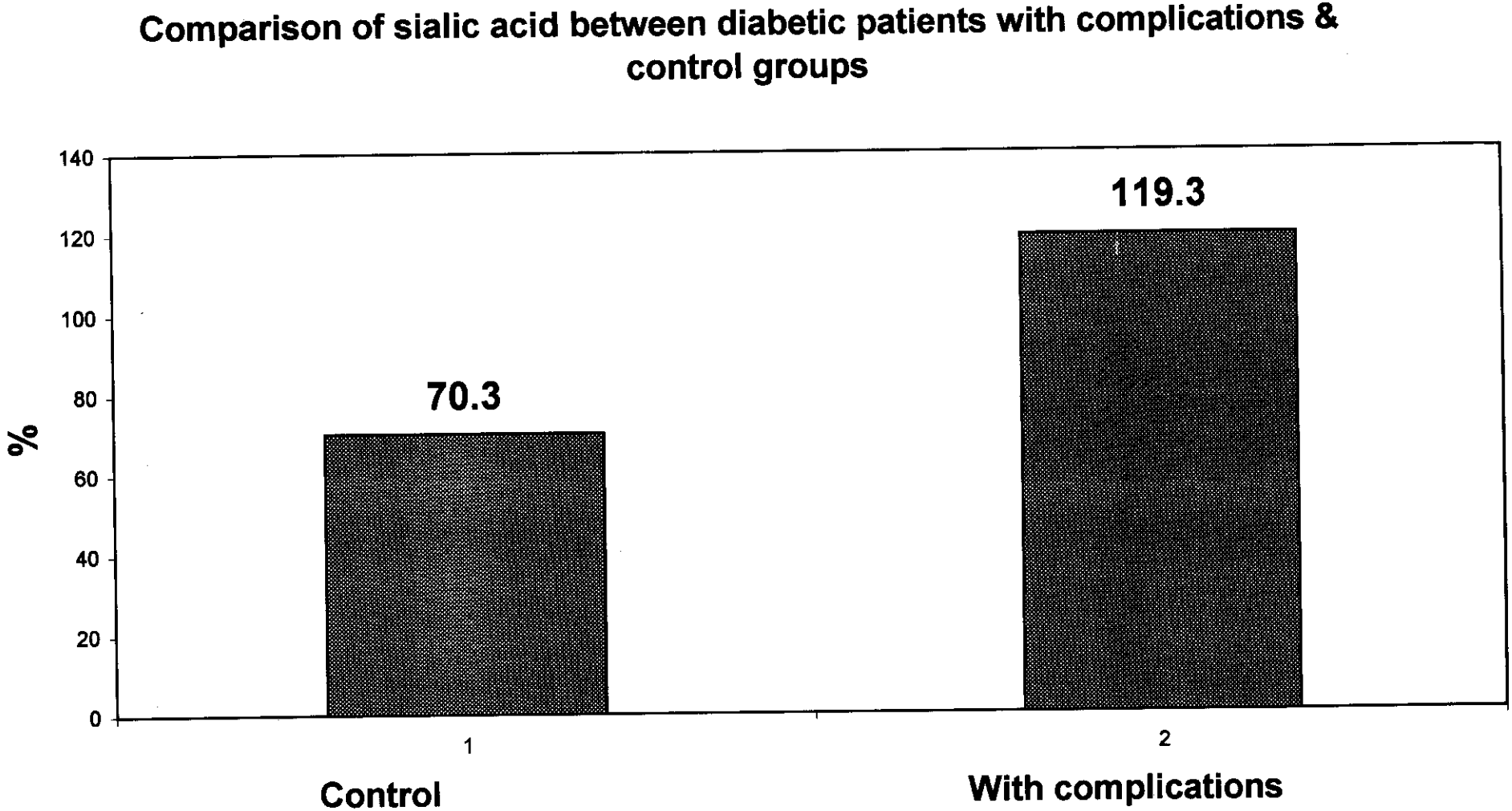
Comparison of sialic acid between diabetic patients with complications & control groups
140
120
100
80
60
40
20
0
%
70.3
119.3
1
2
Control
With complications

Fig. (13)

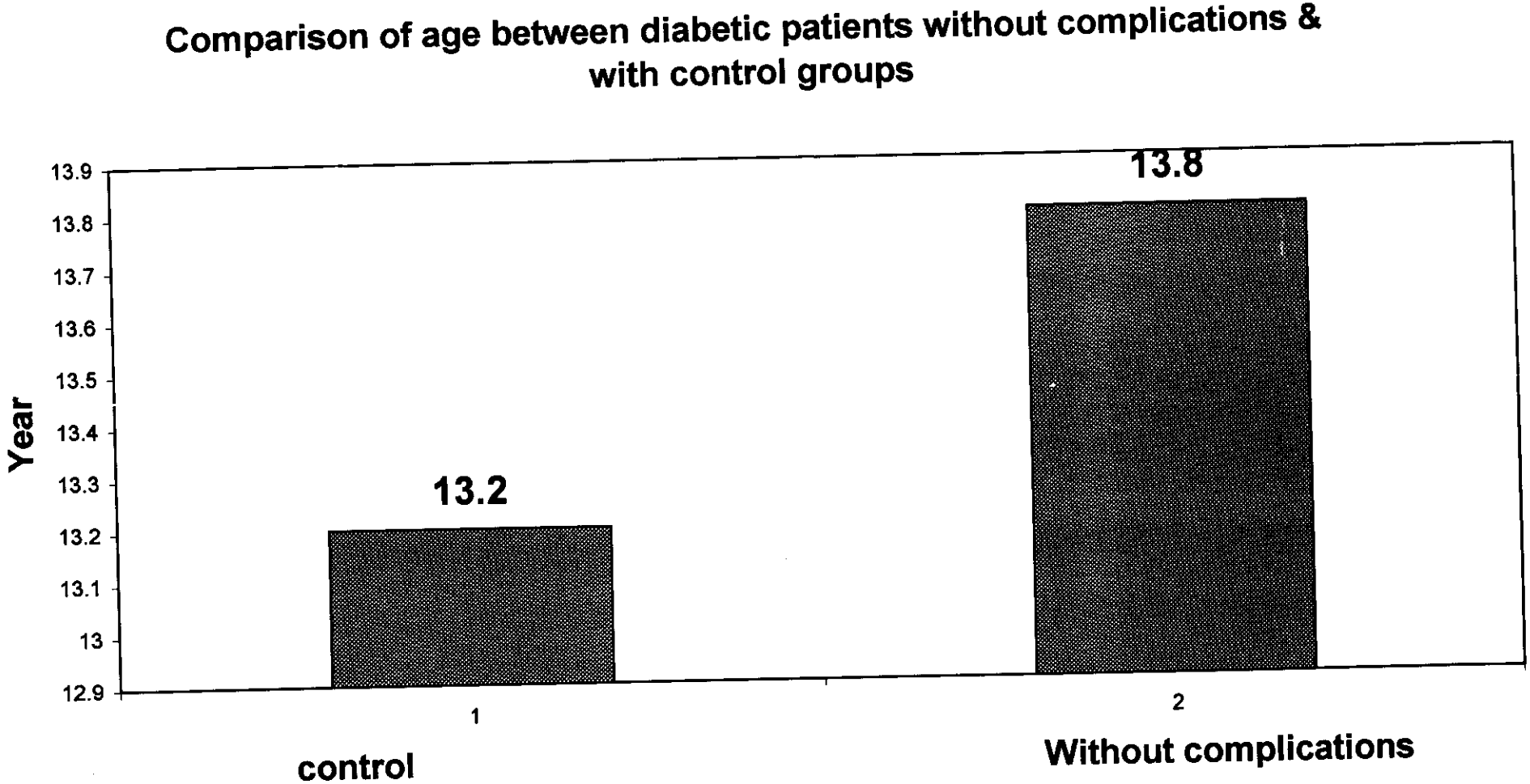
Comparison of age between diabetic patients without complications & with control groups
Year
13.9
13.8
13.7
13.6
13.5
13.4
13.3
13.2
13.1
13
12.9
13.2
13.8
1
2
control
Without complications

Fig. (14)

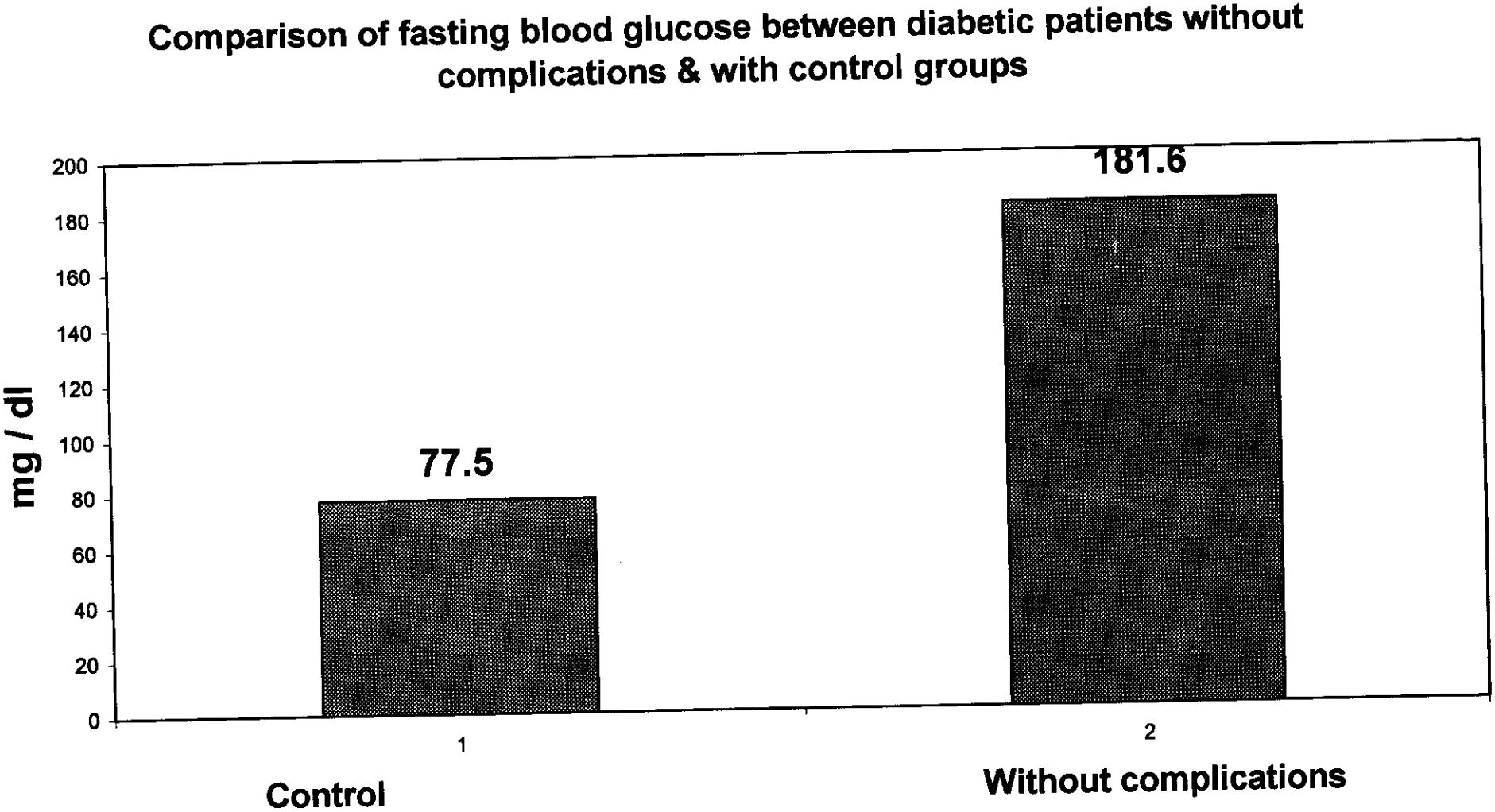
Comparison of fasting blood glucose between diabetic patients without complications & with control groups
mg / dl
200
180
160
140
120
100
80
60
40
20
0
77.5
181.6
1
2
Control
Without complications

Fig. (15)

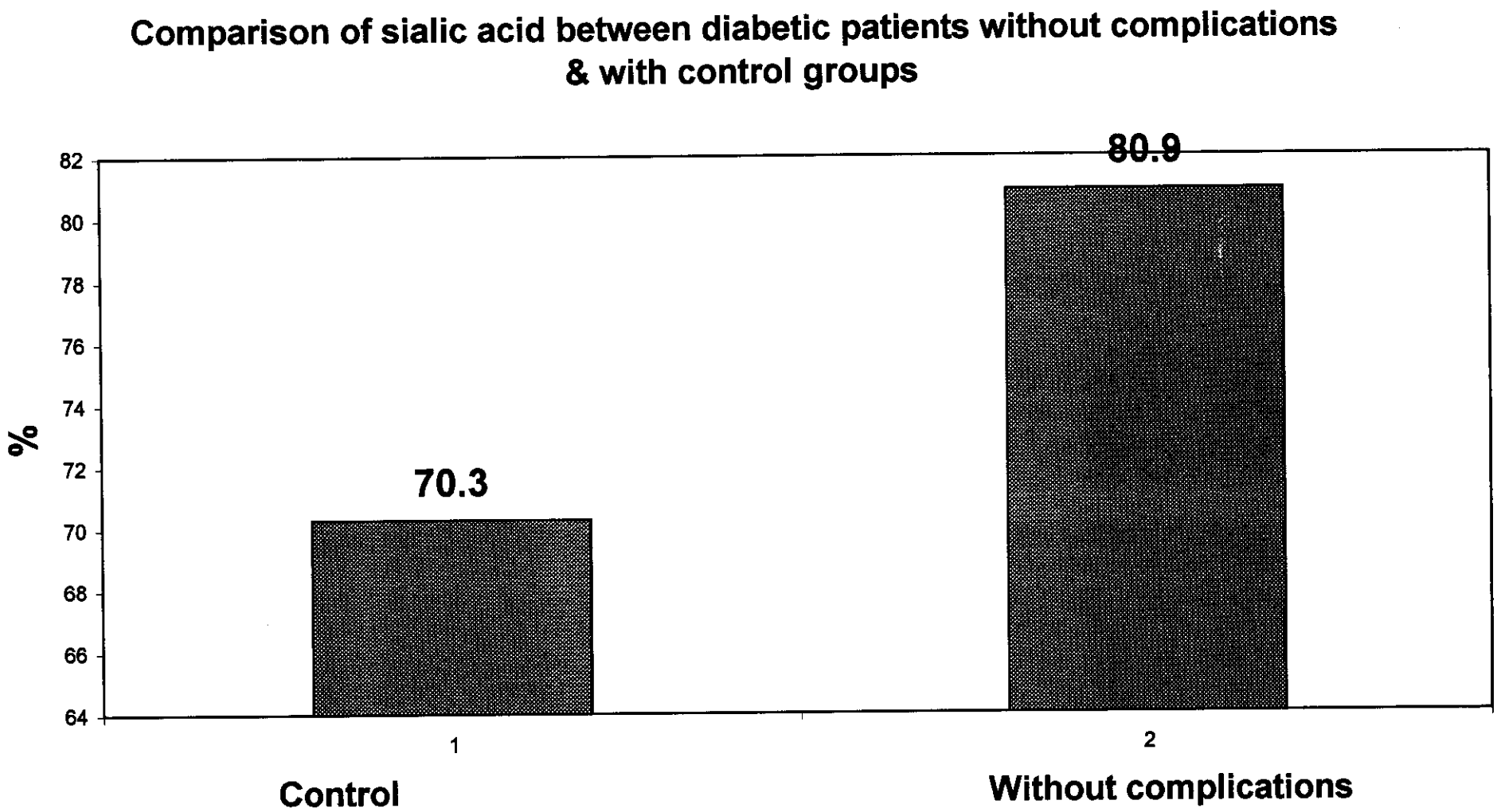
Comparison of sialic acid between diabetic patients without complications & with control groups
82
80
78
76
74
72
70
68
66
64
%
70.3
80.9
1
2
Control
Without complications

Fig. (16)