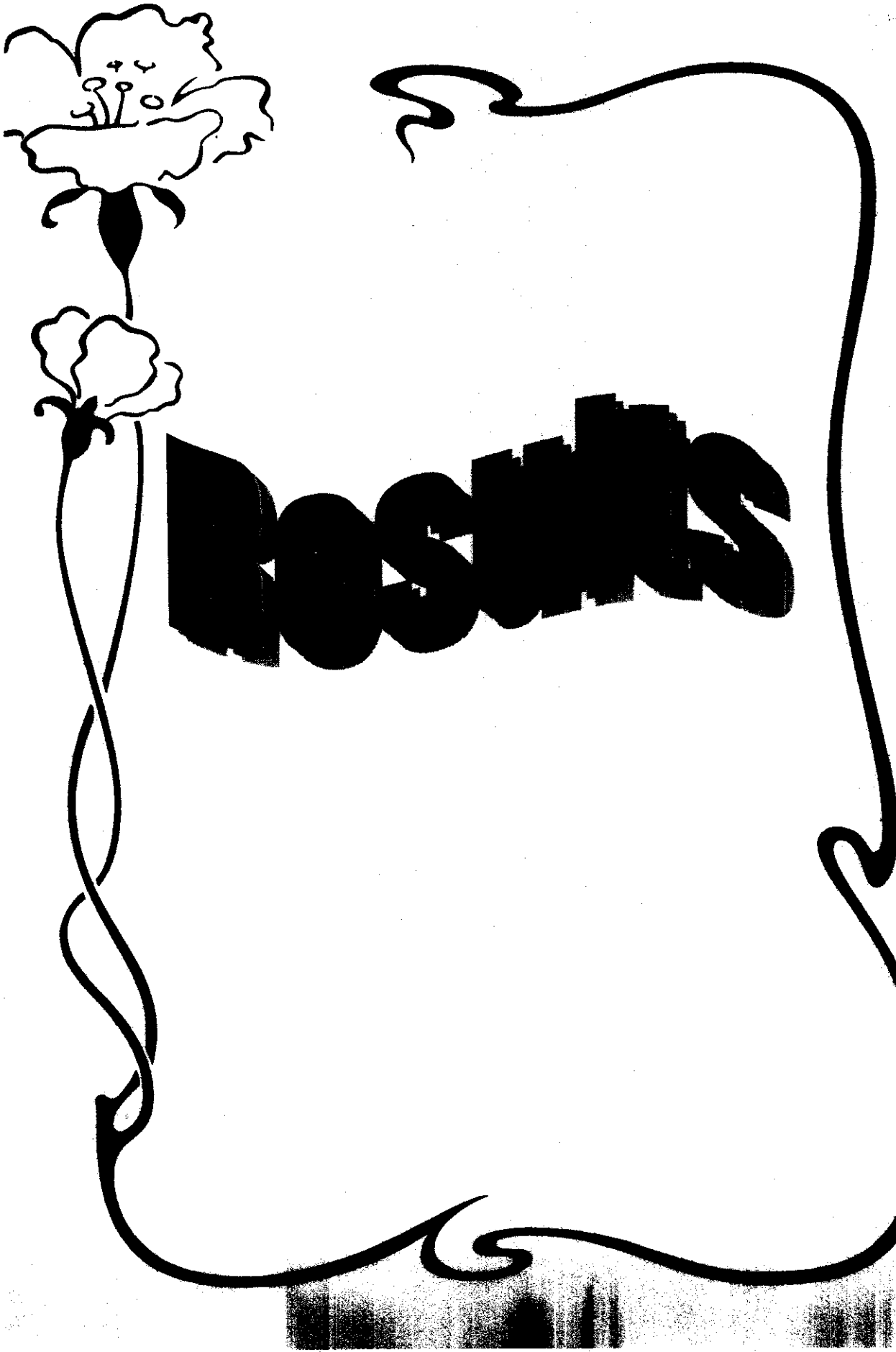
Results

Results

I- Clinical data :

In our study group the ages were ranging from 22 years old to 38 years old with a mean of 32.2 ± 4.26. Their weights were ranging from 65 kg to 92 kg with a mean of 80.67±8.91.

The parity distribution was ranging from 0 to 4 with a mean of 1.8 ± 1.42.

The duration of pregnancy was 42 weeks in 26 patients and 42 weeks + 3days in 4 patients as shown in table 1.

As regards cervical score for inducibility, 21 patients (70%) had unfavourable cervix (Bishop score <4) and 9 patients (30%) had favourable cervix (Bishop score ≥4) as shown in table 1.

II - Results of fetal surveillance :

Biophysical profile (BPP) was normal (>6) in 15 patients and abnormal (≤6) in 15 patients as shown in table 2.

The AFI was measured in cm. There were; 3 cases (10%) with oligohydramnios (AFI < 5) (Fig. 5), 14 cases (46.67%) with borderline oligohydramnios (AFI 5.1 - 8cm) (Fig. 6) and 13 cases (43.33%) with normal AFI (8.1 - 25cm) (Fig. 7). The incidence of polyhydramnios was 0 in our study group (Table 3).

Non stress test was interpretted as reactive with no deceleration in (9 cases) 30% (Fig. 8), reactive with deceleration in only one case (3.33%), non reactive with no deceleration in 10 cases (33.33%) (Fig.9)

and non reactive with decleration in 10 cases (33.33%) as shown in table 4, (Fig. 10 and Fig. 11).

As regards the mode of delivery among the study group the incidence of cesarean section was 9 cases (30%) compared to vaginal delivery in 21 cases (70%) as shown in table 5.

The cause of cesarean section was either failed induction (Fetal distress or failure of progress) in 5 cases or fetal distress in 4 cases as shown in table 5.

III - Neonatal and fetal condition :

The incidence of meconium stained amniotic fluid among the study group as shown in table 6 was grade 0 in 14 cases (46.67%), grade I in 3 cases (10%), grade II in 9 cases (30%) and grade III in 4 cases (13.33%).

Apgar score after 1 min was normal ($\geq$ 7) in 11 cases and abnormal (< 7) in 19 cases (table 7). Apgar score after 5min was normal (> 7) in 15 cases and abnormal (<7) in 15 cases.

Fetal weight after delivery was ranging from 2.800gm to 5000 gm (table 8). 27 babies weighed from 2500-4500gm. Only 3 (10%) weighed more than 4500 gm with a mean of 3.44 ± 0.55.

IV Statistical analysis of data :

As regards the evaluation of Biophysical profile in relation to neonatal condition by Apgar score after one min. this relation was highly significant ($P < 0.01$) This test shows very high specificity and positive predictive value (100%), but show low sensitivty 78.9%. Its accuracy was 86.7% (table 9A).

As regard the evaluation of Biophysical profile in relation to neonatal condition by Apgar score after 5min the sensitivity improved to (100%) as shown in table 9B.

Evaluation of amniotic fluid index in relation to neonatal condition by Apgar score after 1 min shows that there was highly statistically significant value ($P < 0.01$). The test shows 78.9% sensitivity, 81.8% specificity and 88.2% positive predictive value. Its accuracy was 80% (table 10A).

Evaluation of AFI in relation to neonatal condition by Apgar score after 5min shows that the sensitivity was 100%, The specificity was 86.7%, The positive predictive value was 88.2%, The negative predictive value was 100% and the accuracy 93.3% as shown in table 10B.

As regards the evaluation of non stress test in relation to neonatal condition by Apgar score after 1 min It shows statistical significance and high sensitivity (84.2%) as shown in table 11.

Evaluation of presence of deceleration in the non stress test in relation to neonatal condition by Apgar score after 1min showed low sensitivity (47.4%) and high specificity (81.8%) as shown in table 12.

- Evaluation of meconium stained amniotic fluid in relation to neonatal condition by Apgar score after one min. showed that this relation had high statistically significant (P<0.001), the sensitivity was (78.9%), specificity (90.9%) and positive predictive value (93.8%) as shown in table 13.

- Comparison between cases of oligohydramnios, borderline oligohydramnios and normal AFI in relation to neonatal condition by Apgar score after 1 min showed highly statistical significance (P< 0.01) (Table 14) and (Fig 2).
- As regards Rank correlation, there was positive correlation between Biophysical profile and Apgar score after one min (R = 0.701) (Fig 3). There was positive correlation between Modified biophysical profile (Amniotic fluid index and non stress test) and Apgar score after one min (R = 0.670) (Fig 4).

Table (1) : Clinical criteria of the study group age , weight , parity , duration of pregnancy and condition of the cervix evaluated by Bishop score .

Variables	Range	Mean	SD
Age (ys)	22-38	32.2	±4.26
weight of mothers (kg)	65-92	80.67	± 8.91
Parity	0-4	1.8	± 1.42
Duration of pregnancy		Number of patients	
42 weeks		26	
42+3 days		4	
Condition of the cervix		Number of patients	
Favorable ≥ 4		9	
un favorable < 4		21	

Table (2) : Results of Biophysical profile among the study group.

Biophysical profile (B.P.P)	No. of patient
Normal > 6	15
Abnormal < 6	15
Total	30

Table (3) : Amniotic fluid index (AFI) among the study group.

Amniotic fluid index (AFI) (Cm)	No. of patients	%
< 5 (oligohydramnios)	3	10%
5.1-8 (borderline)	14	46.67%
8.1-25 (normal)	13	43.33%
> 25 Polyhydramnios	0	0
Total	30	100%

Table (4) : Results of non stress test among the study group.

Non stress test	No. of patients	%
Reactive - No D	9	30
Reactive + D	1	3.33
Non Reactive - No D	10	33.33
Non Reactive + D	10	33.33
Total	30	100%

D = Deceleration

No D = No Deceleration

Table (5) : Mode of delivery among the study group.

Causes of cesarean section delivery among the study group.

Mode of delivery	No. of patients
Vaginal delivery	21
Cesarean section	9
Total	30
Causes of C.S	**No. of patients**
Failed induction	5
Fetal distress	4
Total	9

Table (6) : prevalence of meconium stained amniotic fluid among the study group.

meconium grade	No. of patients	%
0	14	46.67%
I	3	10%
II	9	30%
III	4	13.33%
Total	30	100%

Table (7) : Evaluation of neonatal outcome by Apgar score after one minute and after five minutes.

	Apgar score after 1 min		Apgar score after 5min	
	No.	%	No.	%
Abnormal < 7	19	63.33%	15	50%
normal ≥ 7	11	36.67%	15	50%
Total	30	100%	30	100%

Table (8) : Fetal weight (gm) after delivery.

Fetal weight gms	No.	%
< 2.500	-	0
2500-4500	27	90%
> 4500	3	10%
Total	30	100%
Range	2800-5000	
Mean	3.44	
SD	±.55	

Table (9A) : Evaluation of Biophysical profile (BPP) in relation to neonatal condition by Apgar score after 1 min

	Outcome Apgar score after 1min		Total
BPP	**Abnormal**	**Normal**	
Abnormal ≤6	15	0	15
Normal >6	4	11	15
Total	19	11	30

P< 0.01

Sensitivity =78.9%

Specificity = 100%

Positive predictive value = 100%

Negative predictive value = 73.3%

Accuracy = 86.7%

Table (9B) : Evaluation of Biophysical profile (BPP) in relation to neonatal condition by Apgar score after 5 min

	Outcome Apgar score after 5min		Total
BPP	**Abnormal**	**Normal**	
Abnormal ≤6	15	0	15
Normal >6	0	15	15
Total	15	15	30

P< 0.01

Sensitivity =100%

Specificity = 100%

Positive predictive value = 100%

Negative predictive value = 100%

Accuracy = 100%

Table (10A) : Evaluation of amniotic fluid index (AFI) in relation to neonatal condition by Apgar score after 1 min.

	Outcome Apgar score after 1 min		Total
	Abnormal	**Normal**	
Abnormal	15	2	17
Normal	4	9	13
Total	19	11	30

P<0.01
Sensitivity = 78.9%
Specificity = 81.8%
Positive predictive value = 88.2%
Negative predictive value = 69.2%
Accuracy = 80%

Table (10B) : Evaluation of amniotic fluid index (AFI) in relation to neonatal condition by Apgar score after 5 min.

	Outcome Apgar score after 5 min		Total
	Abnormal	**Normal**	
Abnormal	15	2	17
Normal	0	13	13
Total	15	15	30

P<0.01
Sensitivity = 100%
Specificity = 86.7%
Positive predictive value = 88.2%
Negative predictive value = 100%
Accuracy = 93.3%

Table (11) : Evaluation of Non stress Test in relation to neonatal condition by Apgar score after 1 min

	Outcome Apgar score after 1min		Total
NST	**Abnormai**	**Normal**	
NR	16	4	20
R	3	7	10
Total	19	11	30

P< 0.05

Sensitivity = 84.2%

Specificity = 63.2%

Positive predictive value = 80%

Negative predictive value = 70%

Accuracy = 76.7%

Table (12) : Evaluation of deceleration in relation to neonatal condition by Apgar score after 1 min.

	Outcome		Total
	Apgar score after 1min		
Deceleration	**Abnormal**	**Normal**	
Present	9	2	11
No.	10	9	19
Total	19	11	30

Sensitivity =47.4%

Specificity = 81.8%

Positive predictive value = 81.8%

Negative predictive value = 47.4%

Accuracy = 60%

Table (13) : Evaluation of meconium stained amniotic fluid in relation to neonatal condition by Apgar score after 1 min.

	Outcome Apgar score after 1min		Total
Meconium	**Abnormal**	**Normal**	
Present	15	1	16
Absent	4	10	14
Total	19	11	30

P< 0.001

Sensitivity = 78.9%

Specificity = 90.9%

Positive predictive value = 93.8%

Negative predictive value = 71.4%

Accuracy = 83.3%

Table (14) : Comparison between cases of oligohydramnios, border line oligohydramnios and normal AFI in relation to neonatal condition by Apgar score after 1 min.

	AFI <5 + (5.1-8) (N=17)	Normal AFI (N=13)	$\chi 2$	P
Apgar score < 7 after 1min	15	4	8.43	< 0.01

Table (15) : Rank correlation between Apgar score after 1min, Biophysical profile (BPP) & Modified Biophysical profile

	Apgar score after 1min	Biophysical profile (BPP)
BPP	0.701*	
AFI + NST	0.670*	0.752*

* Significant.

Fig. 1:Evaluation of different tests in relation to fetal condition by Apgar score after 1 min..

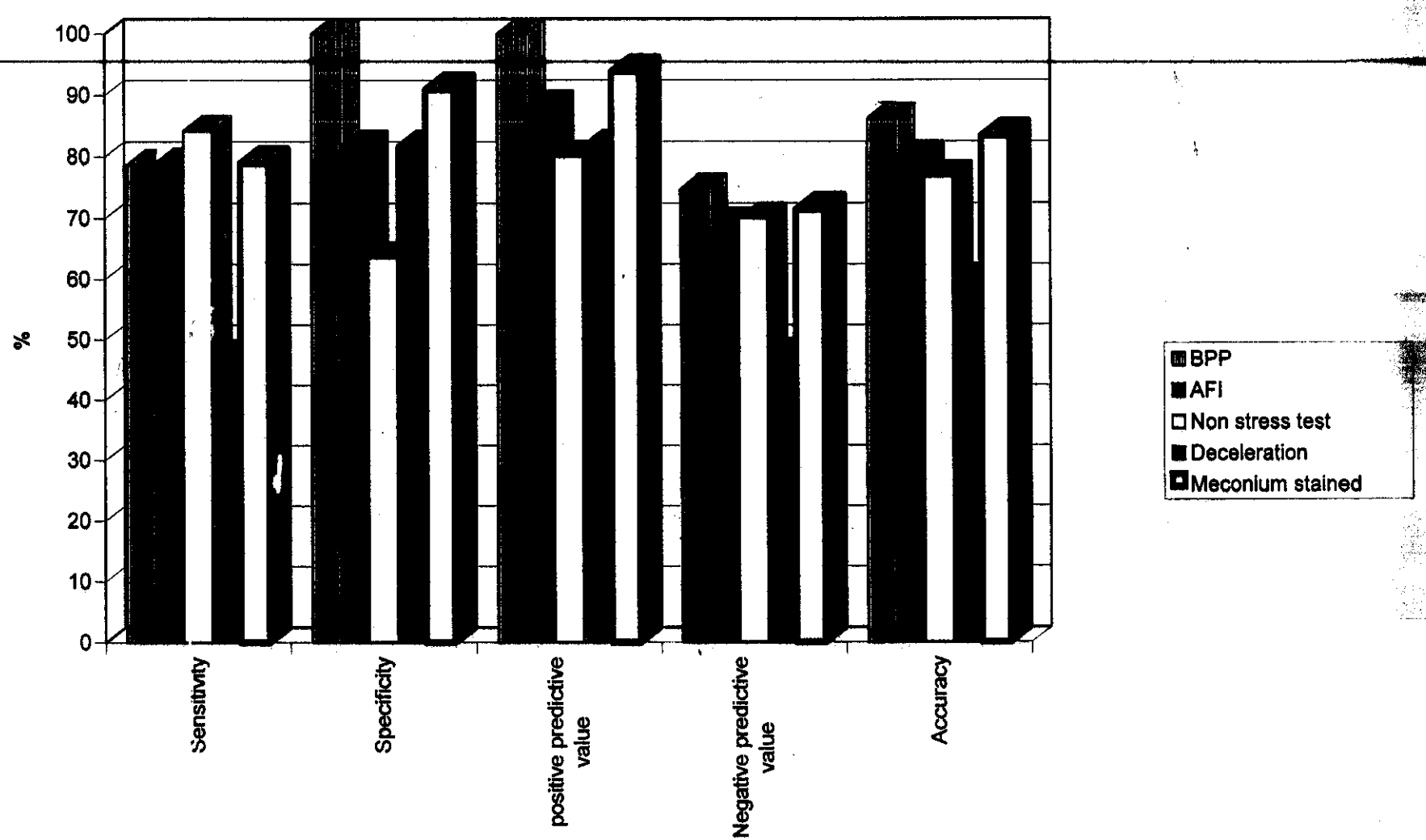

Fig. 2 :Relation between AFI & Apgar score.

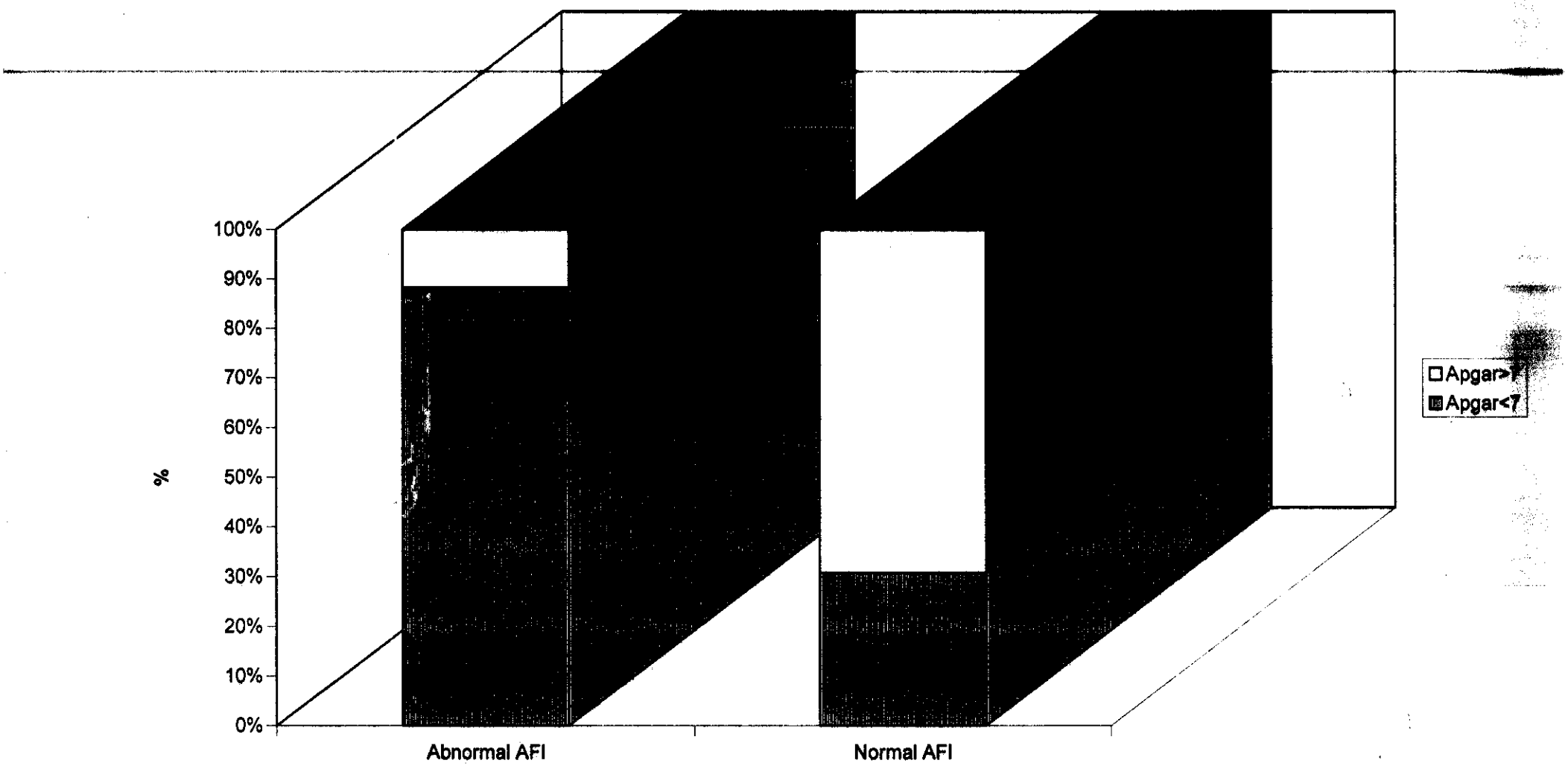

Fig. 3 : Correlation between Biophysical profile and Apgar score after 1 min.

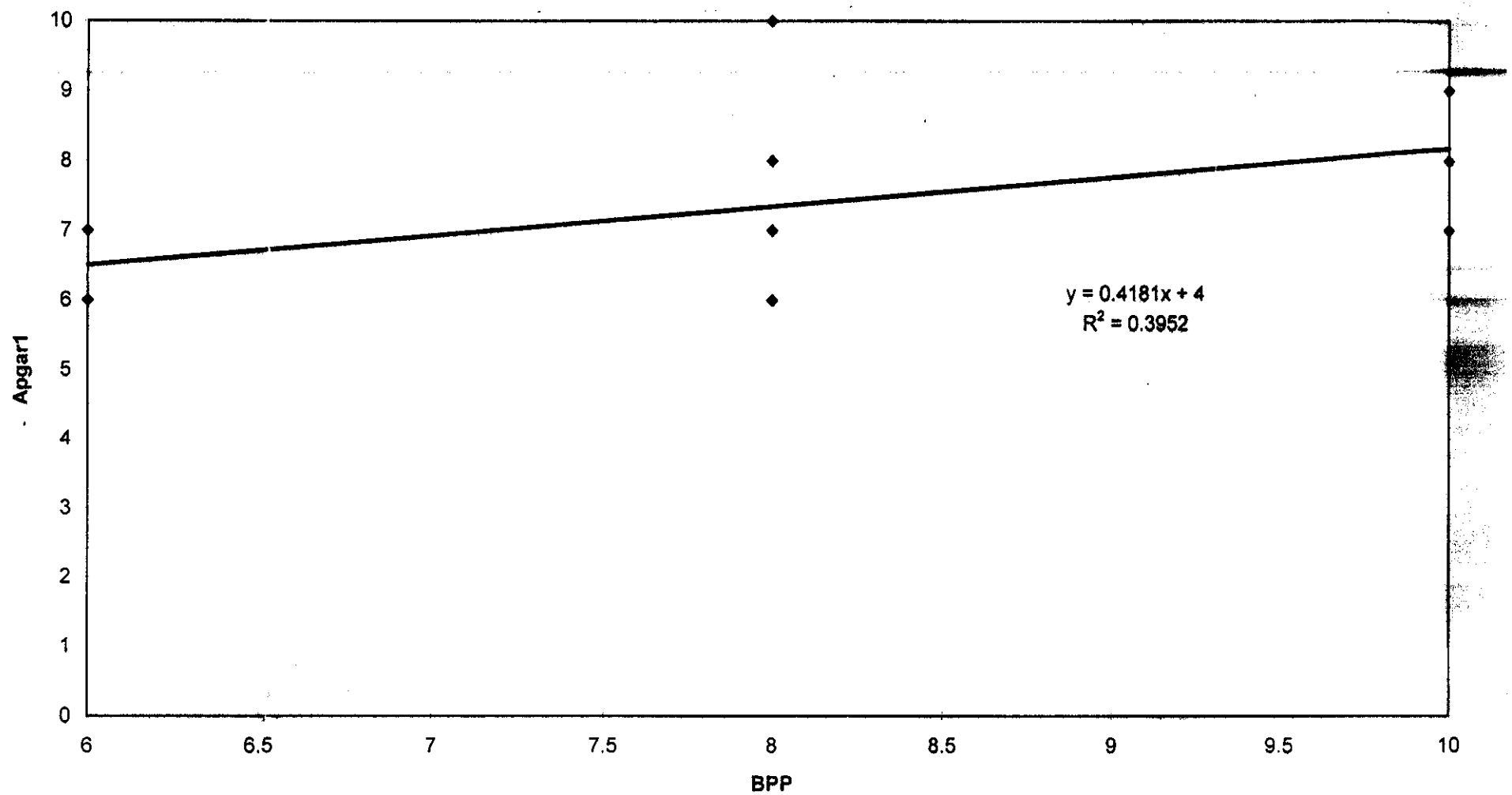

Fig. 4 : Correlation between Modified Biophysical profile (AFI + NST) and Apgar score after 1 min

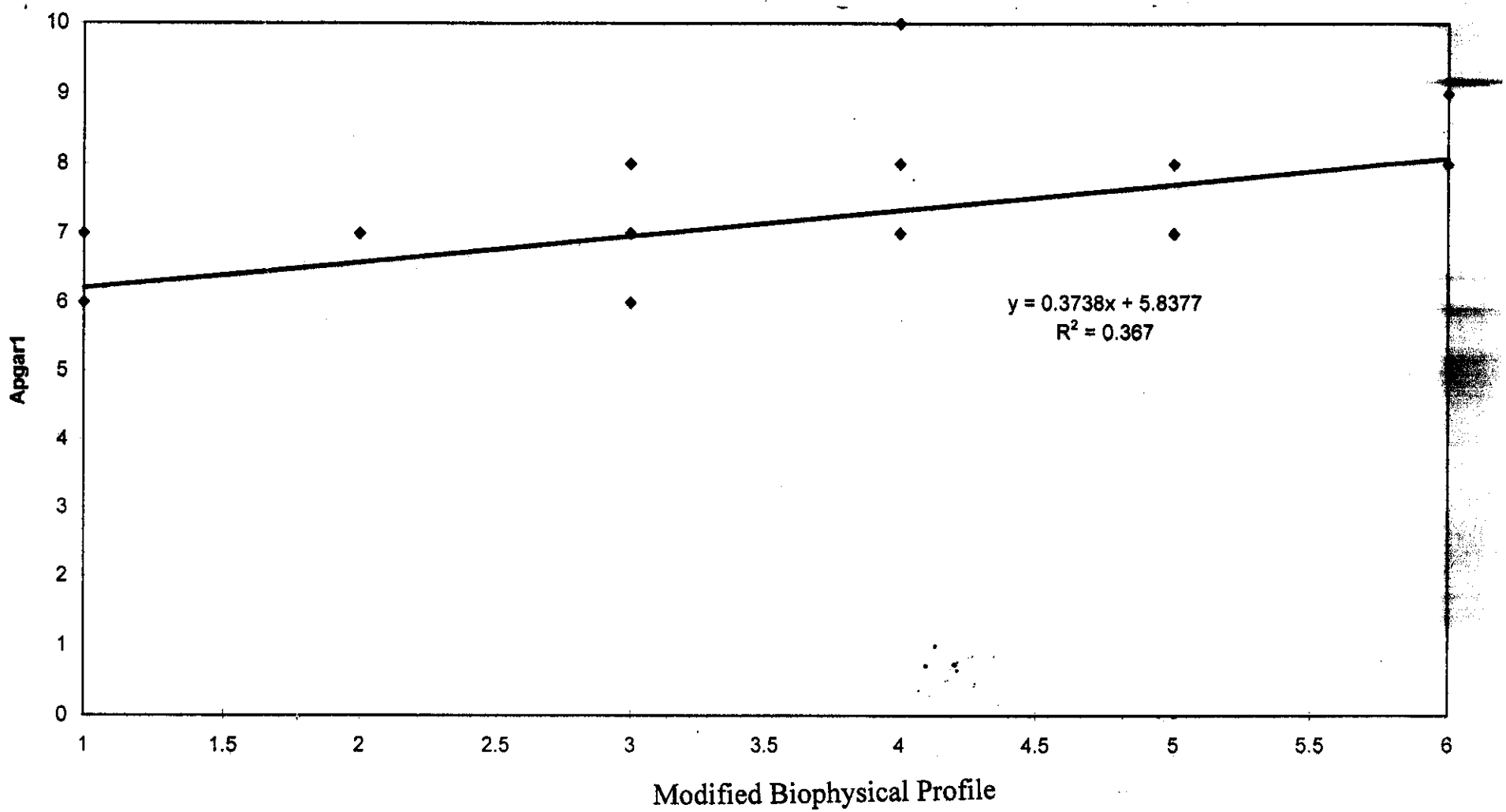

Fig. 5 : Ultrasonographic picture showing oligohydramnios AFI = 3.9 cm .

Fig. 6 : Ultrasonographic picture showing borderline oligohydramnios AFI = 6.6 cm

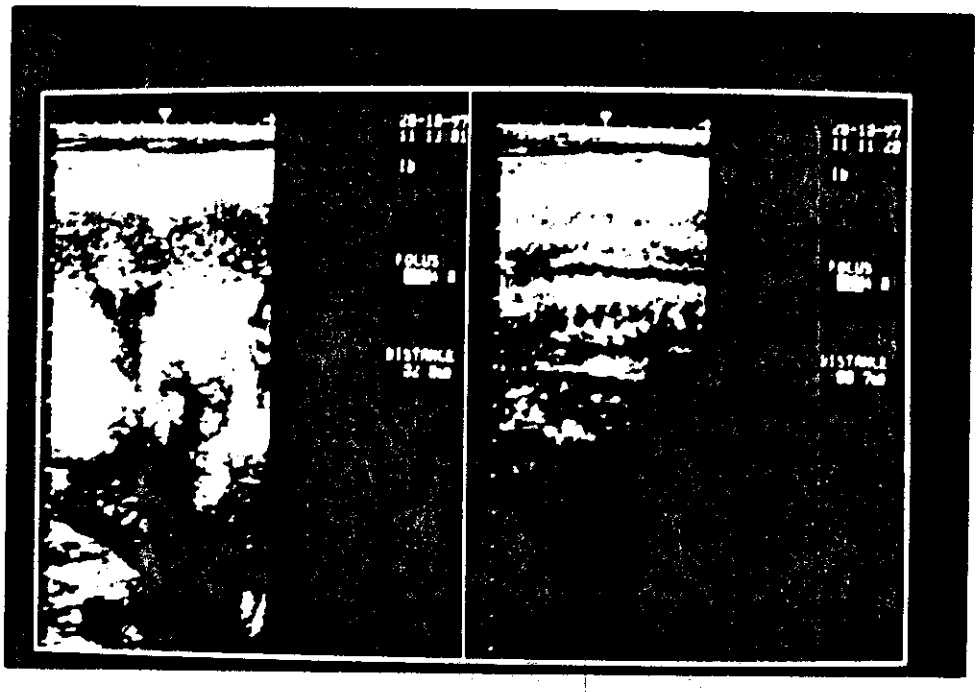

Fig. 7 : Ultrasonographic picture showing normal AFV, AFI = 9.4 cm .

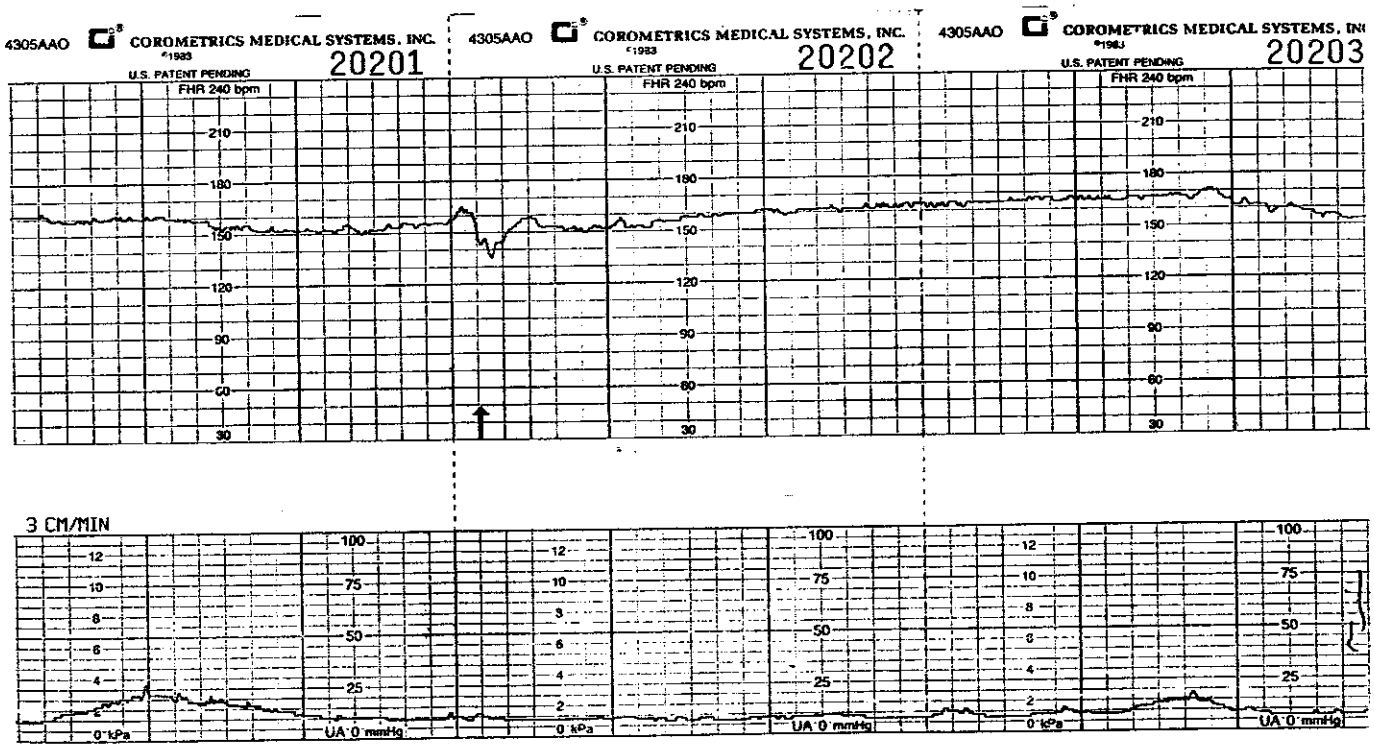

Fig. 10 : Non reactive NST with loss of beat to beat variability and spontaneous deceleration .

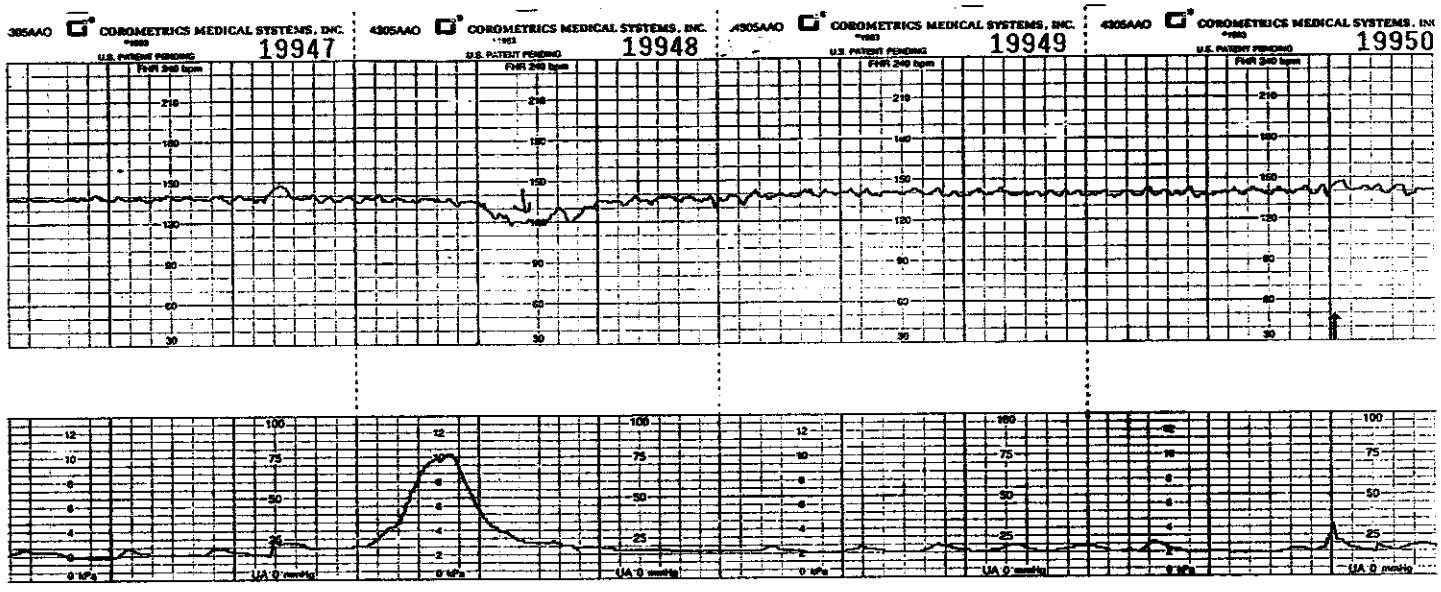

Fig. 11 : Non reactive NST with loss of beat to beat variasbility and late deceleration .

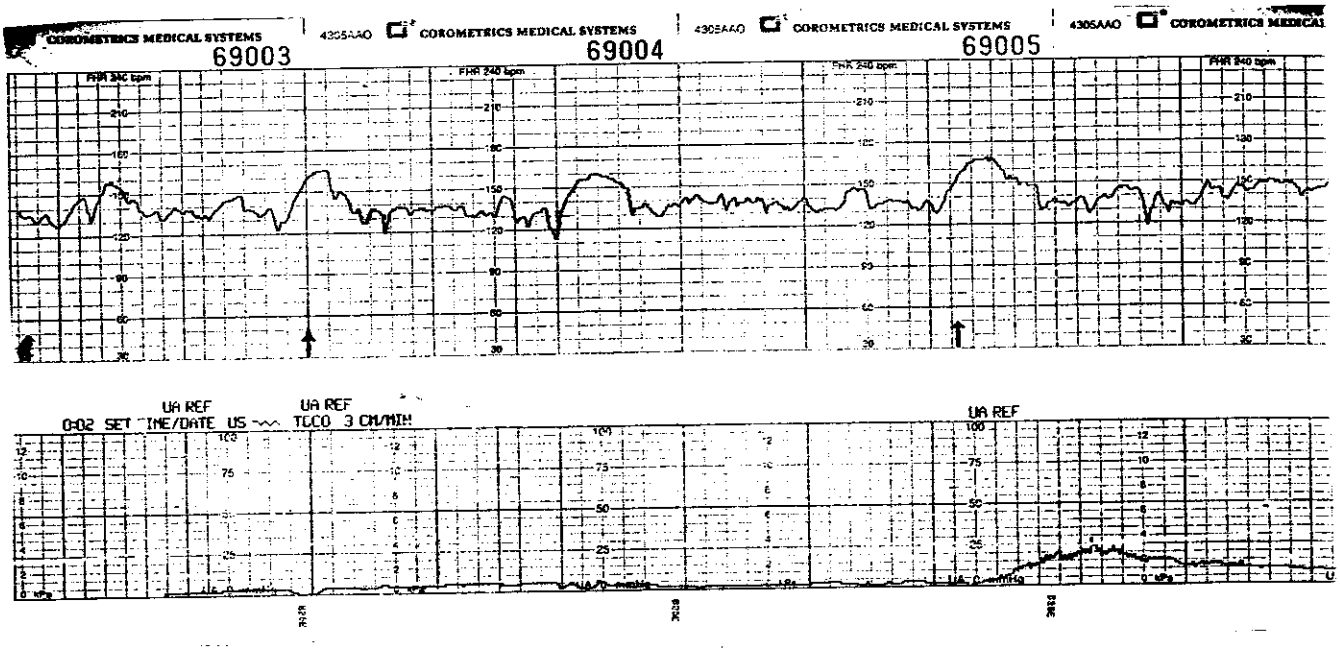

Fig. 8 : Reactive NST

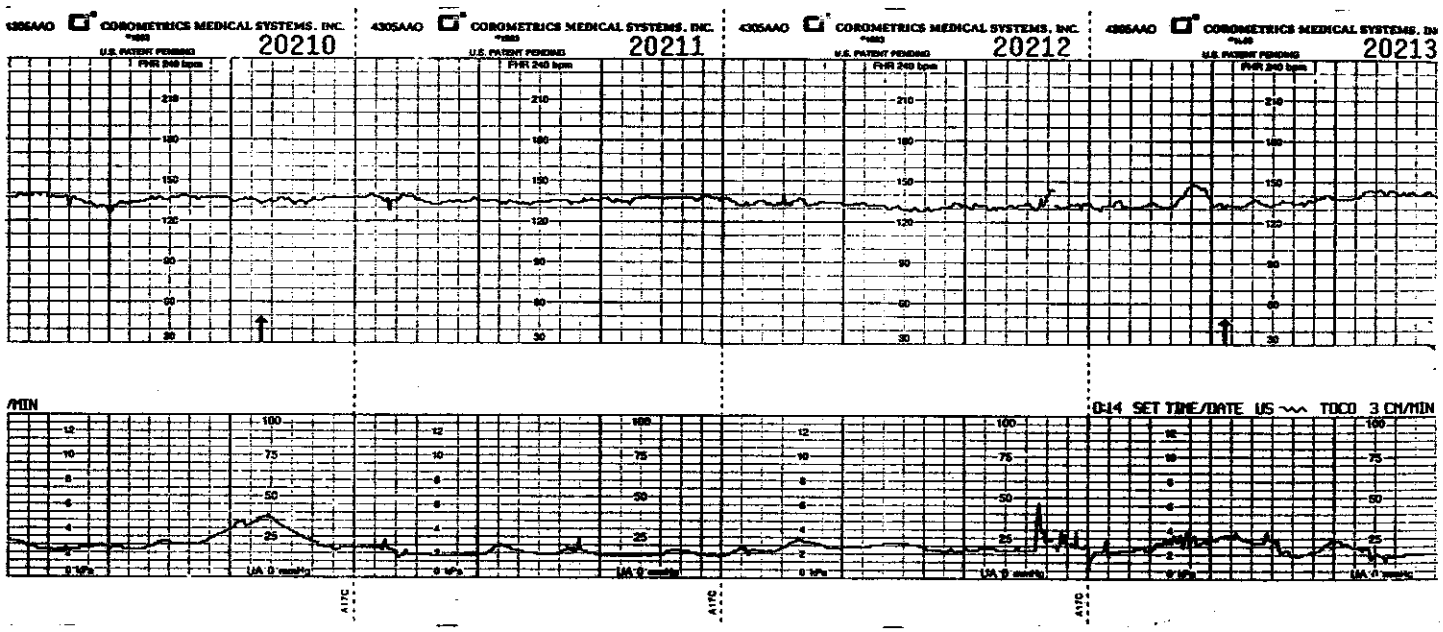

Fig. 9 : Non reactive NST with loss of beat to beat variability .