Results

This study was carried out in neonatal intensive care unit of Banha children hospital.

It took the period from April 2007 to April 2008. The study included 50 preterm neonates (28 male and 22 female). Their gestational age ranged from (28 weeks to 36 weeks) and their weight ranged between (1500gm to 2900 gm) they were divided into two groups:

The 1st group: included 10 cases of healthy preterm neonates who do not have respiratory distress.

The 2nd group: included 40 cases of preterm neonates with respiratory distress syndrome.

Table (2): Comparison between the studied groups as regard to sex distribution

		Sex		
		Male	**Female**	**Total**
Control	N	5	5	10
	%	50	50	100
Study	N	23	17	40
	%	57.5	42.5	100
Total	N	28	22	50
	%	56	44	100
Chi-Square	X^2		**0.183**	
	P-value		**>0.05**	

The table shows that there is no statistical significant difference between males and females in the studied groups.

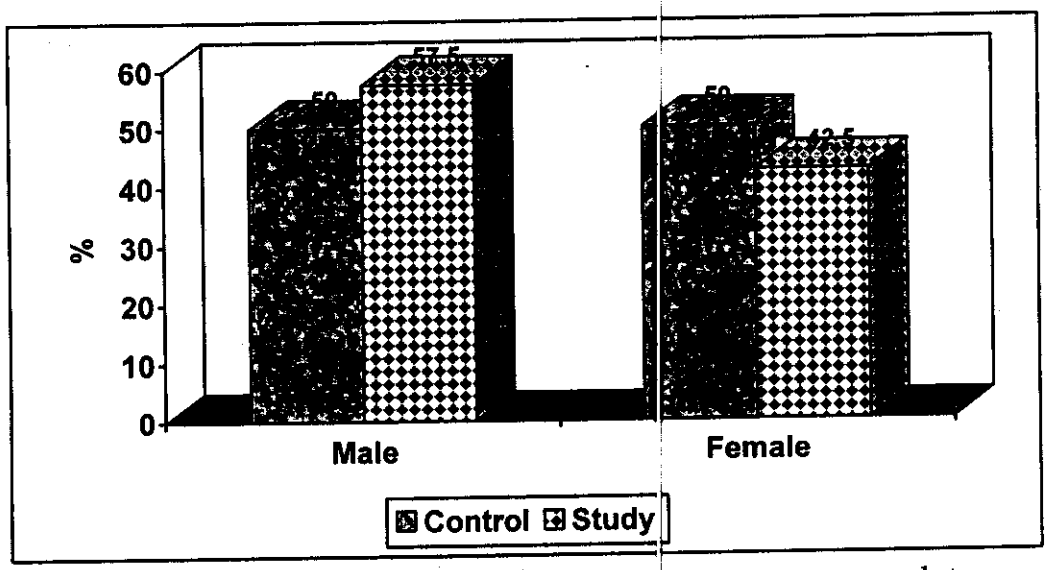

Fig. (9): Comparison between the studied groups as regard to sex distribution

Table (3): Comparison between the studied groups as regard to gestational age

	Gestational age	
	Control	**Study**
Range	34 - 36	28 - 35
Mean	35	31
± SD	2.81	1.91
t. test	2.912	
p. value	>0.05	

The table shows that there is no statistical significant difference between different gestational ages in the studied groups.

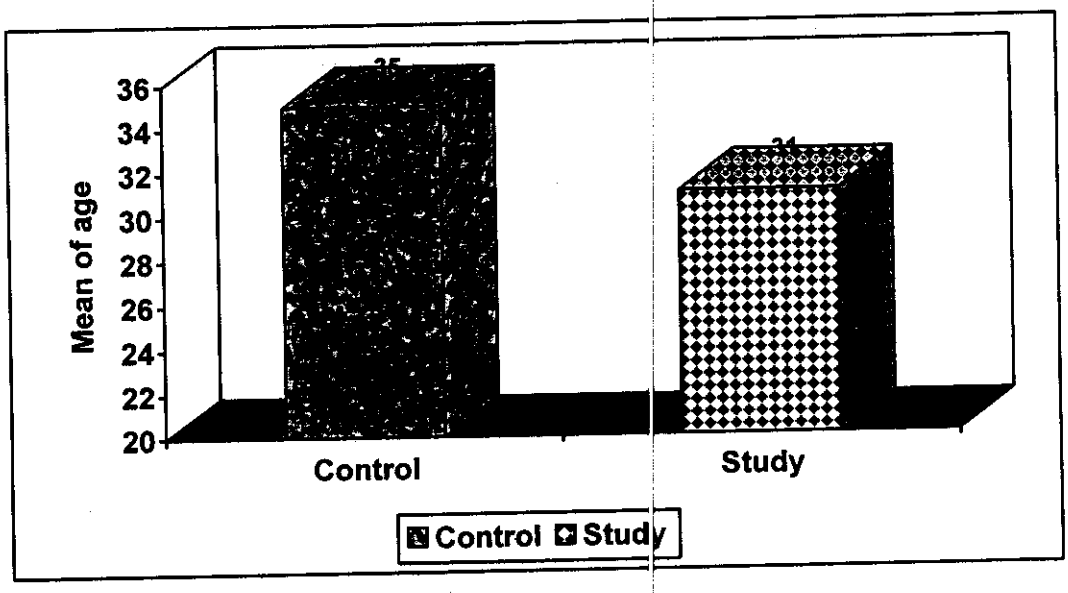

Fig. (10): Comparison between the studied groups as regard to gestational age

Table (4): Comparison between the studied groups as regard to birth weight

	Weight	
	Control	**Study**
Range	2300 - 2900	1500 - 2900
Mean	2590	2218
± SD	291.19	326.75
t. test	2.491	
p. value	0.163	

The table shows that there is no statistical significant difference between birth weight in the studied groups.

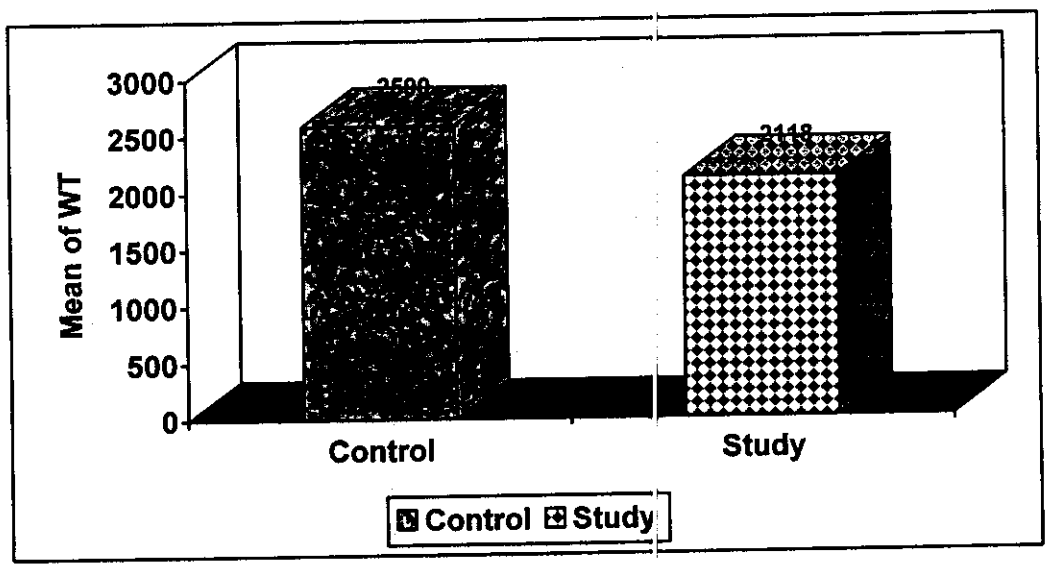

Fig. (11): Comparison between the studied groups as regard to birth weight

Table (5): Comparison between the studied groups as regard to maternal age

	Maternal age/ year	
	Control	**Study**
Range	21 - 31	20 -39
Mean	26.30	27.25
± SD	3.33	4.37
t. test	**).524**	
p. value	**>0.05**	

The table shows that there is no statistical significant difference between maternal ages in the studied groups.

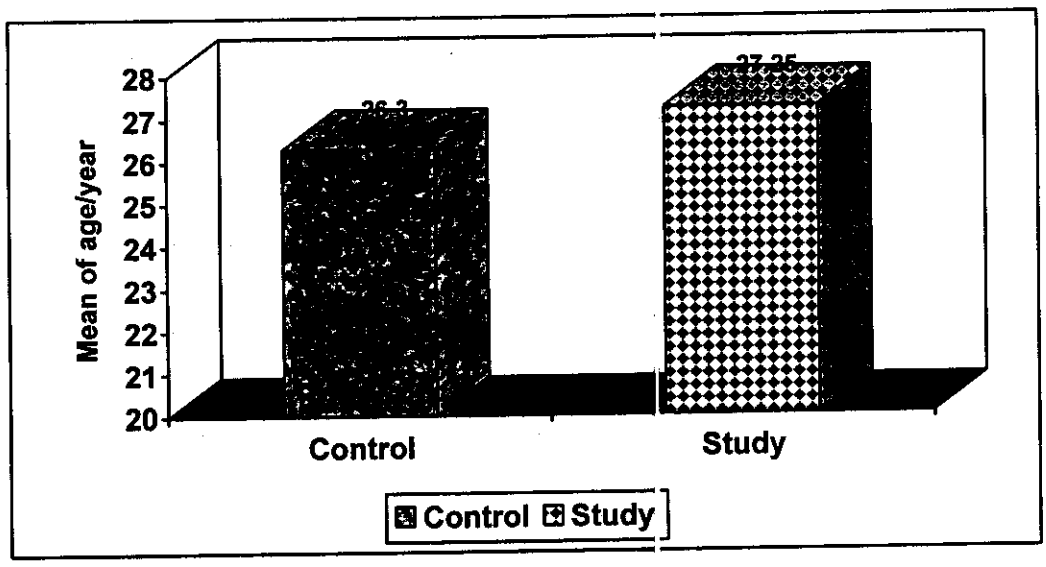

Fig. (12): Comparison between the studied groups as regard to maternal age

Table (6): Comparison between the studied groups as regard to mode of delivery among the studied groups

		Mode of delivery		
		NVD	CS	Total
Control	N	6	4	10
	%	60	40	100
Study	N	25	15	40
	%	62.5	37.5	100
Total	N	31	19	50
	%	62	38	100
Chi-Square	X^2	0.021		
	P-value	>0.05		

The table shows that there is no statistical significant difference between mode of delivery in the studied groups.

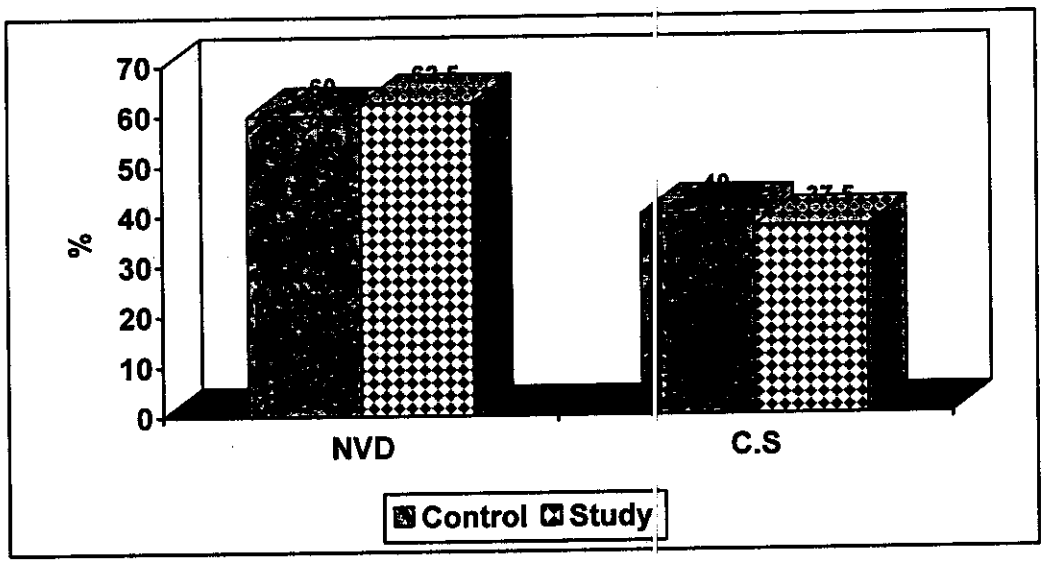

Fig. (13): Comparison between the studied groups as regard to mode of delivery among the studied groups

Table (7): Comparison between the studied groups as regard to mother's parity numbers

		Parity number			
		1	2	3	Total
Control	N	4	6	0	10
	%	40	50	0	100
Study	N	21	14	5	40
	%	52.5	35	12.5	100
Total	N	25	20	5	50
	%	50	40	10	100
Chi-Square	X^2	2.750			
	P-value	>0.05			

The table shows that there is no statistical significant difference between mother's parity numbers in the studied groups.

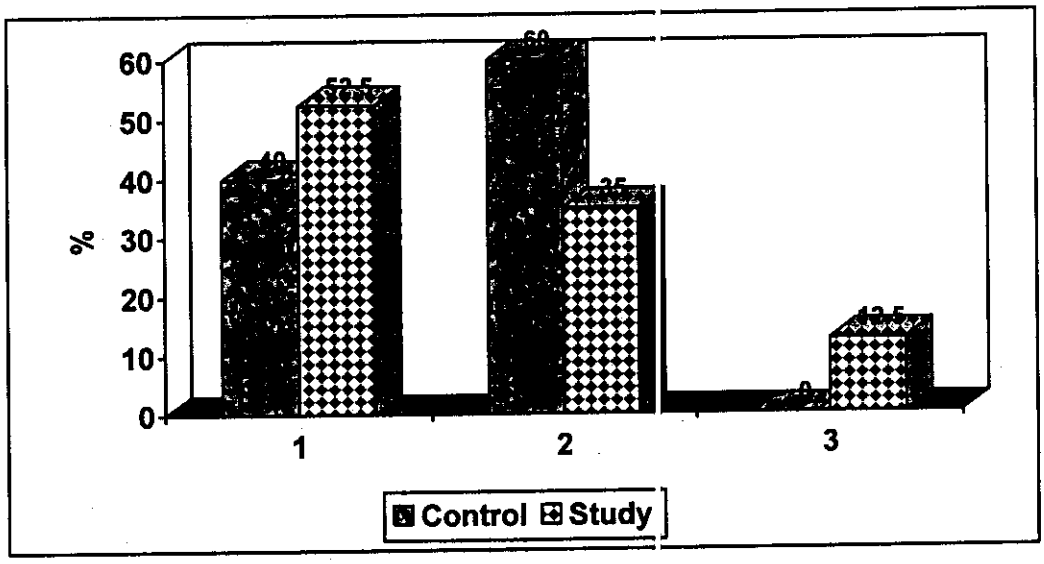

Fig. (14): Comparison between the studied groups as regard to mother's parity numbers

Table (8): Comparison between the studied groups as regard to Hb level

	Hb g/dL	
	Control	**Study**
Range	12.50 – 18.30	10.40 – 20
Mean	15.68	14.70
± SD	1.78	2.72
t. test	1.069	
p. value	>0.05	

The table shows that there is no statistical significant difference between Hb level in the studied groups.

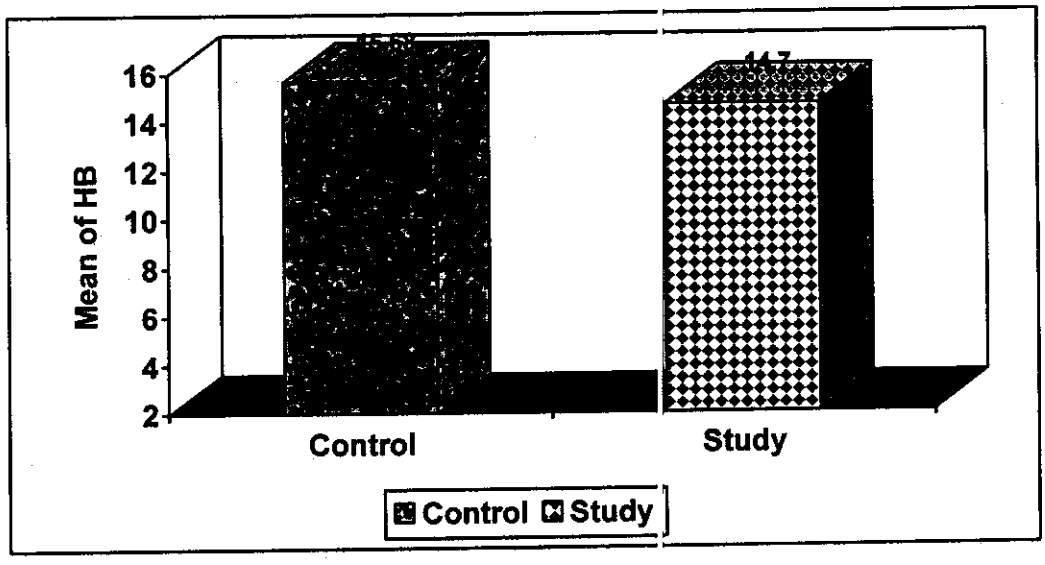

Fig. (15): Comparison between the studied groups as regard to Hb level

Table (9): Comparison between the studied groups as regard to RBCs count

	RBCs $10^6/mm^3$	
	Control	**Study**
Range	3.90 – 6.60	3 – 7.90
Mean	5.42	5.64
± SD	0.906	1.45
t. test	**).465**	
p. value	**>0.05**	

The table shows that there is no statistical significant difference between R.B.Cs count in the studied groups.

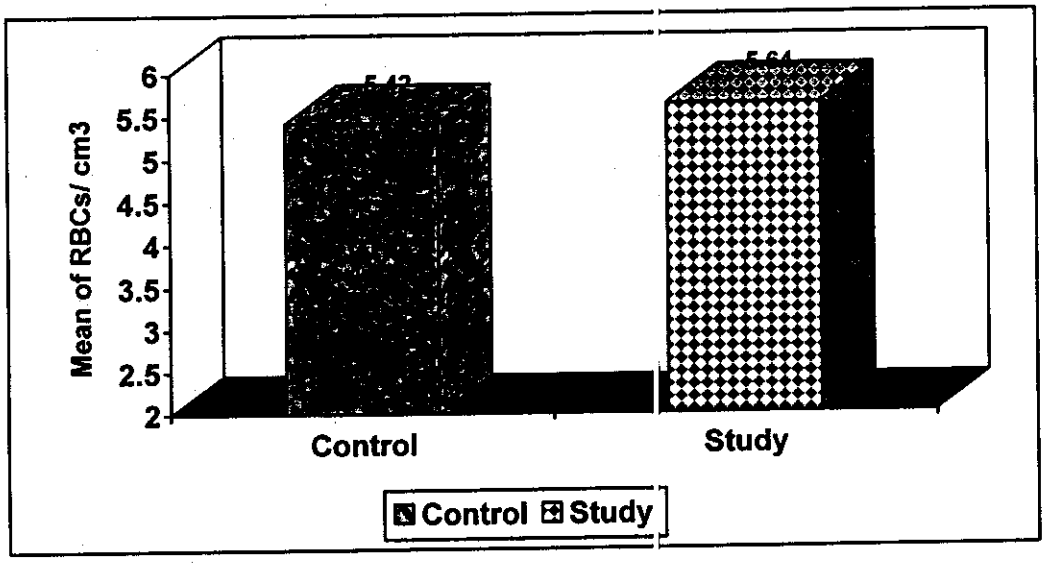

Fig. (16): Comparison between the studied groups as regard to RBCs count

Table (10): Comparison between the studied groups as regard to leucocyte count

	L.C $10^3/mm^3$	
	Control	**Study**
Range	7 – 16.70	4.50 - 18
Mean	10.43	10.78
± SD	2.90	3.79
t. test	**0.381**	
p. value	**>0.05**	

The table shows that there is no statistical significant difference between leucocyte count in the studied groups.

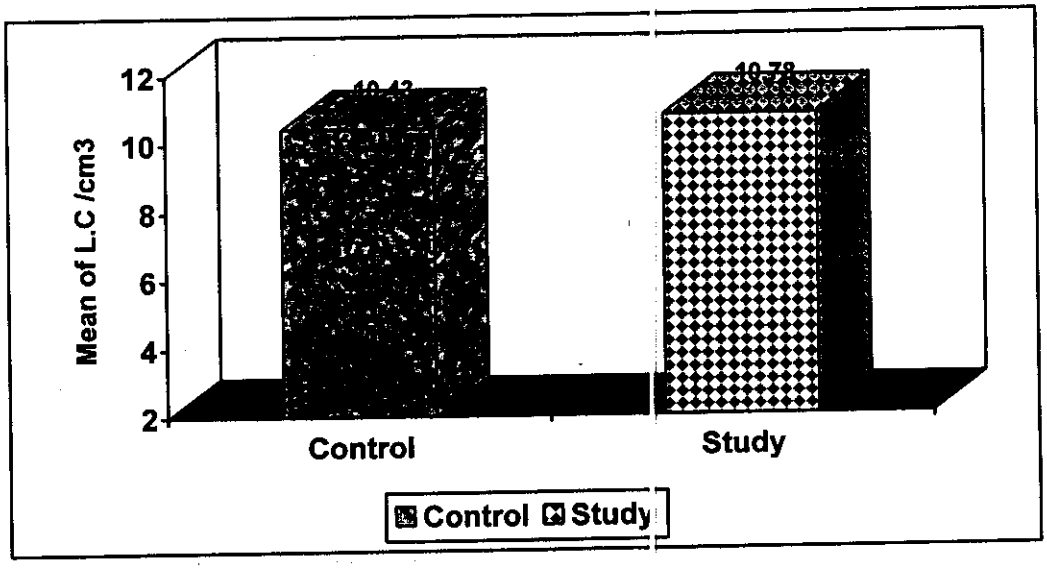

Fig. (17): Comparison between the studied groups as regard to leucocyte count

Table (11): Comparison between the studied groups as regard to platelet count

	PLC $10^3/mm^3$	
	Control	**Study**
Range	90 - 180	30 - 243
Mean	136.4	128.12
± SD	31.15	50.68
t. test	0.491	
p. value	>0.05	

The table shows that there is no statistical significant difference between platelet count in the studied groups.

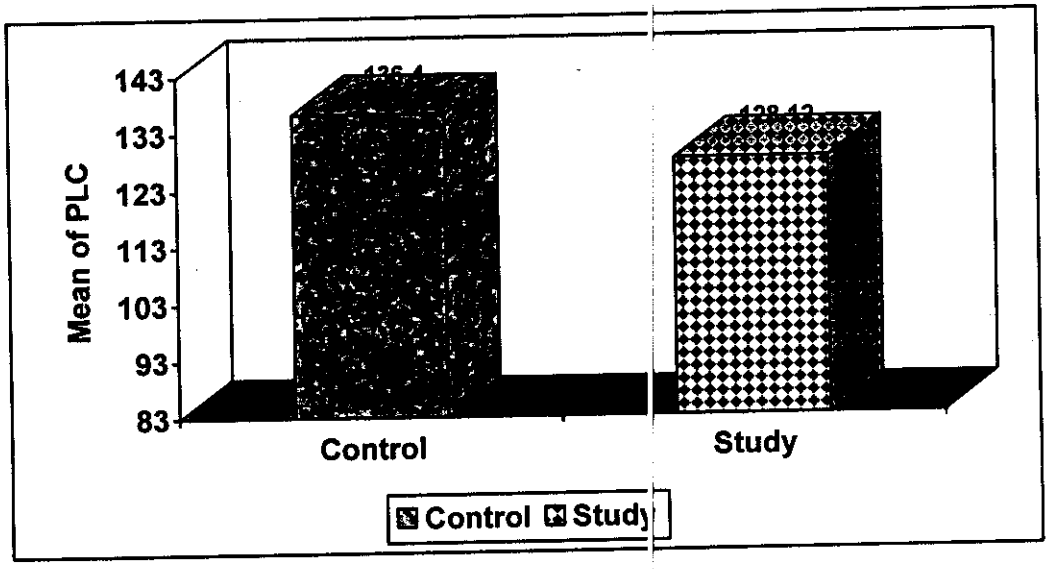

Fig. (18): Comparison between the studied groups as regard to platelet count

Table (12): Comparison between the studied groups as regard to arterial blood PH

	PH	
	Control	**Study**
Range	7.34 – 7.41	6.90 – 7.30
Mean	7.37	7.14
± SD	0.024	0.095
t. test	7.308	
p. value	<0.001*	

The table shows statistical significant reduction in the study group in comparison with the control group as regard to arterial blood PH.

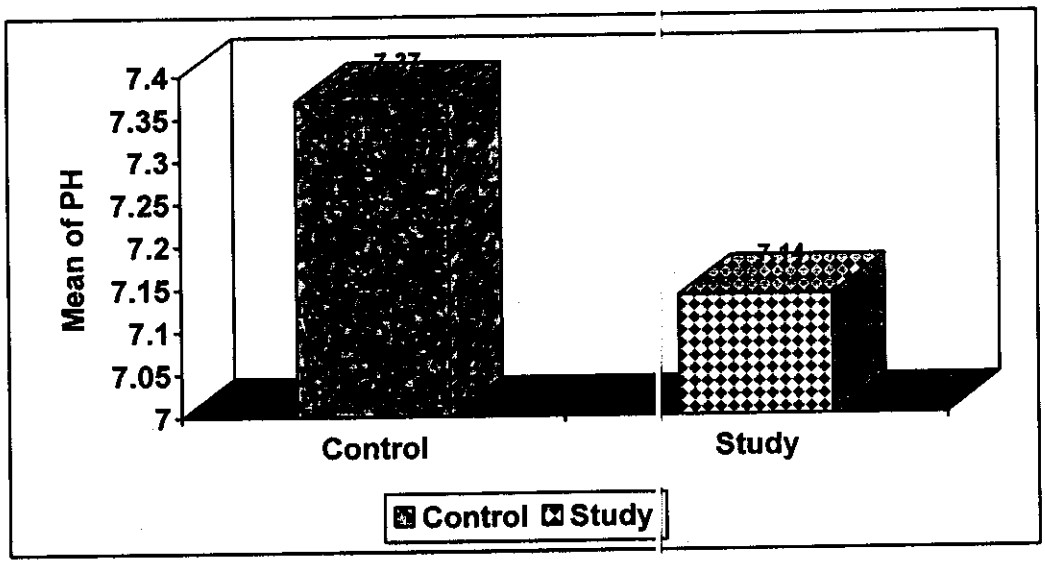

Fig. (19): Comparison between the studied groups as regard to arterial blood PH

Table (13): Comparison between the studied groups as regard to arterial blood Po2

	Po2	
	Control	**Study**
Range	80 - 96	59 - 90
Mean	88.90	76.62
± SD	4.49	7.90
t. test	4.685	
p. value	<0.001*	

The table shows statistical significant reduction in the study group in comparison with the control group as regard to arterial blood Po2.

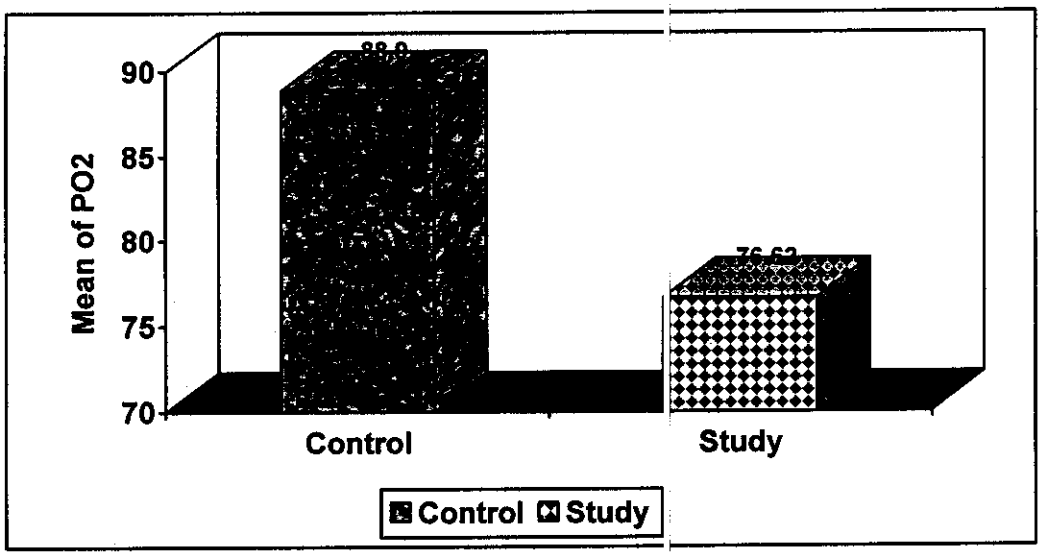

Fig. (20): Comparison between the studied groups as regard to arterial blood Po2

Table (14): Comparison between the studied groups as regard arterial blood Pco2

	Pco2	
	Control	**Study**
Range	34 - 40	8.20 – 32
Mean	37.10	22.70
± SD	2.02	6.19
t. test	17.204	
p. value	<0.001*	

The table shows statistical significant reduction in the study group in comparison with the control group as regard to arterial blood Pco2.

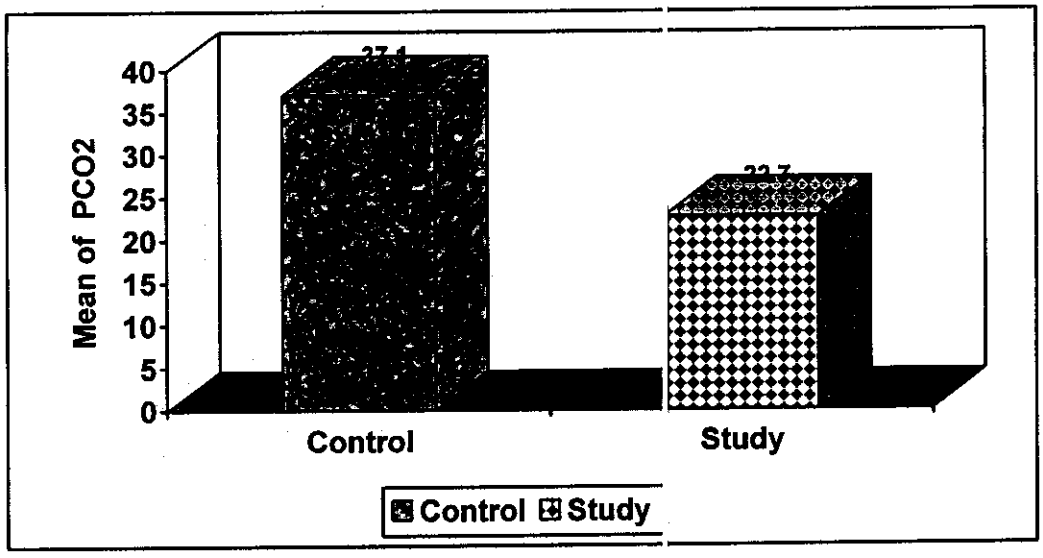

Fig. (21): Comparison between the studied groups as regard to arterial blood Pco2

Table (15): Comparison between the studied groups as regard to arterial blood HCO3

	HCO3 mEq/L	
	Control	**Study**
Range	22 - 27	2.70 – 20
Mean	24.90	10.19
± SD	1.66	4.04
t. test	**11.203**	
p. value	**<0.001***	

The table shows statistical significant reduction in the study group in comparison with the control group as regard to arterial blood HCO3

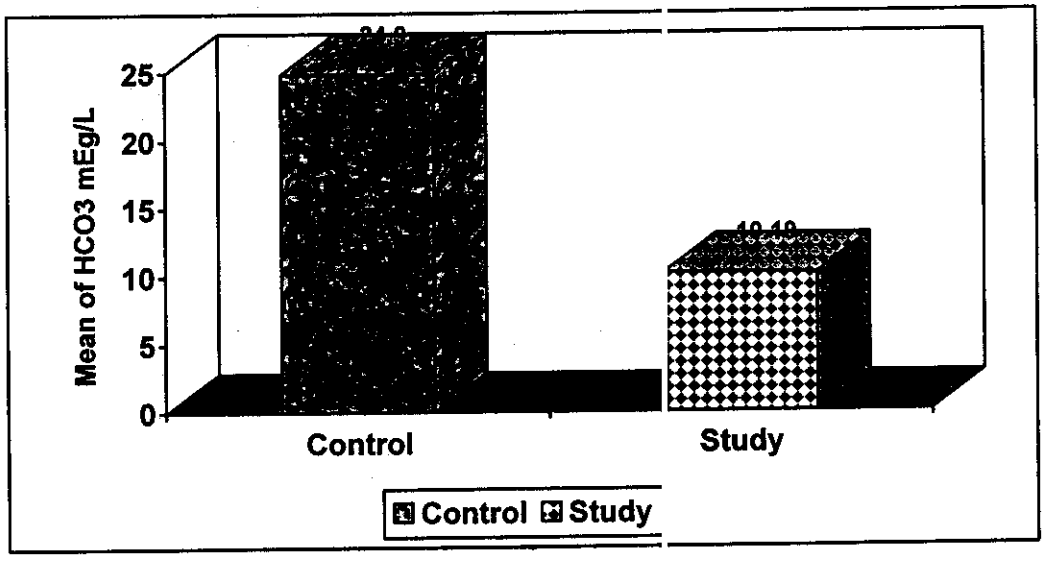

Fig. (22): Comparison between the studied groups as regard to arterial blood HCO3

Table (16): Comparison between the studied groups as regard to troponin T level

	TnT	
	Control	**Study**
Range	0.01 – 0.011	0.01 – 0.11
Mean	0.011	0.048
± SD	0.04	0.03
t. test	3.261	
p. value	<0.001*	

The table shows that there is high statistical significant difference between the studied groups.

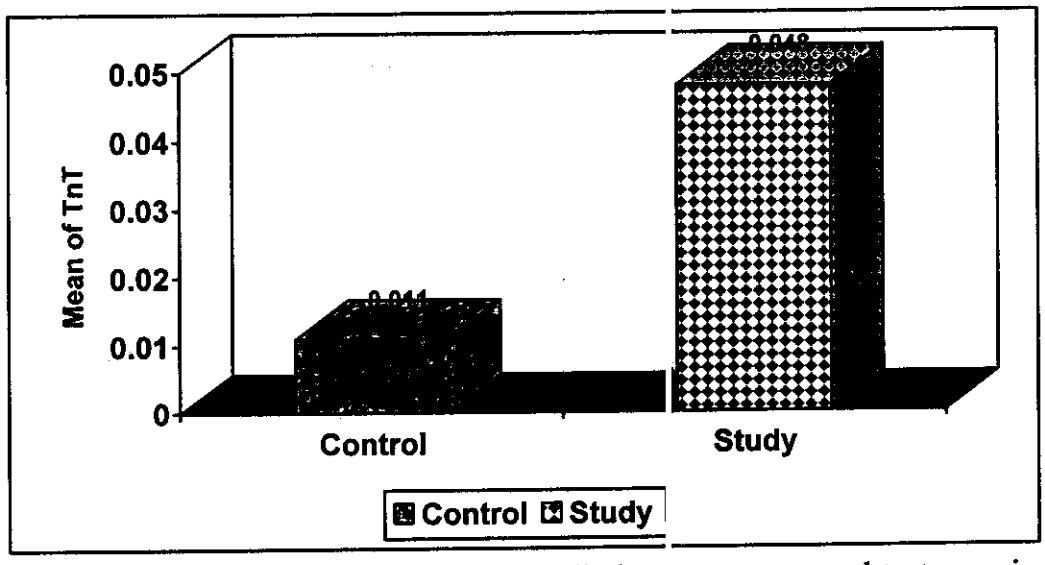

Fig. (23): Comparison between the studied groups as regard to troponin T level

Table (17): Show correlation between Tn T level with sex

TnT	r	P-value
Sex	0.024	0.870

The table shows no statistical significant correlation of Tn T with the sex

Table (18): Show correlation of Tn T level with gestational age

TnT	r	P-value
Gestational age	0.367	0.098

The table shows no statistical significant correlation of Tn T with the gestational age

Table (19): Show correlation of Tn T level with the birth weight

TnT	r	P-value
Wight	0.367	0.129

The table shows no statistical significant correlation of Tn T with the birth weight

Table (20): Show correlation of Tn T level with maternal age

TnT	r	P-value
Maternal age/ year	0.018	0.911

The table shows no statistical significant correlation of Tn T with the maternal age

Table (21): Show correlation of Tn T level with delivery

TnT	r	P-value
Mode of delivery	0.090	0.535

The table shows no statistical significant correlation of Tn T with the delivery

Table (22): Show correlation of Tn T level with CBC

TnT	r	P-value
Hb	0.203	0.157
RBcs	0.005	0.973
L.c	0.121	0.404
Plc	0.144	0.512

The table shows no statistical significant correlation of Tn T with the CBC

Table (23): Show correlation of Tn T level with parameters of arterial blood gases

TnT	r	P-value
pH	0.463	0.001*
Po2	0.349	0.013*
Pco2	0.476	0.001*
Hco3	0.438	0.001*

The table shows highly statistical negative significant correlation of Tn T with the parameters of arterial blood gases

Graph

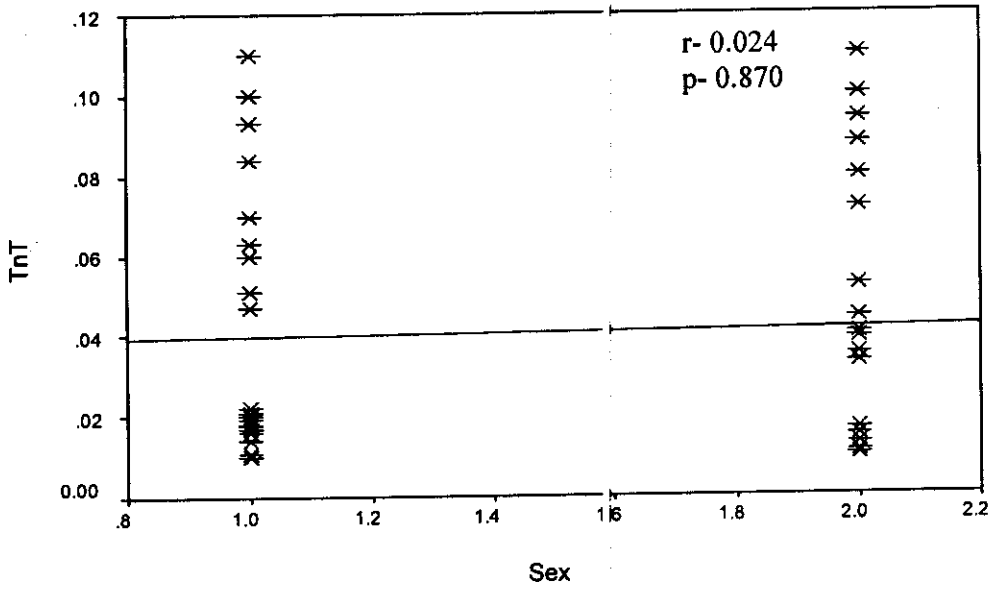

Fig. (24): Shows no statistical significant correlation of Tn T level the sex in the studied groups

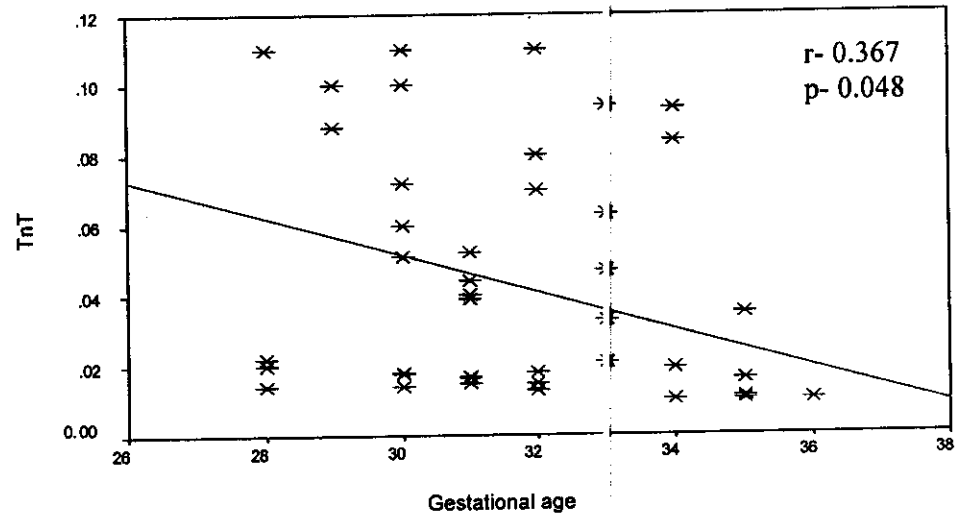

Fig. (25): Shows no statistical significant correlation of Tn T level with the gestational age in the studied groups

Graph

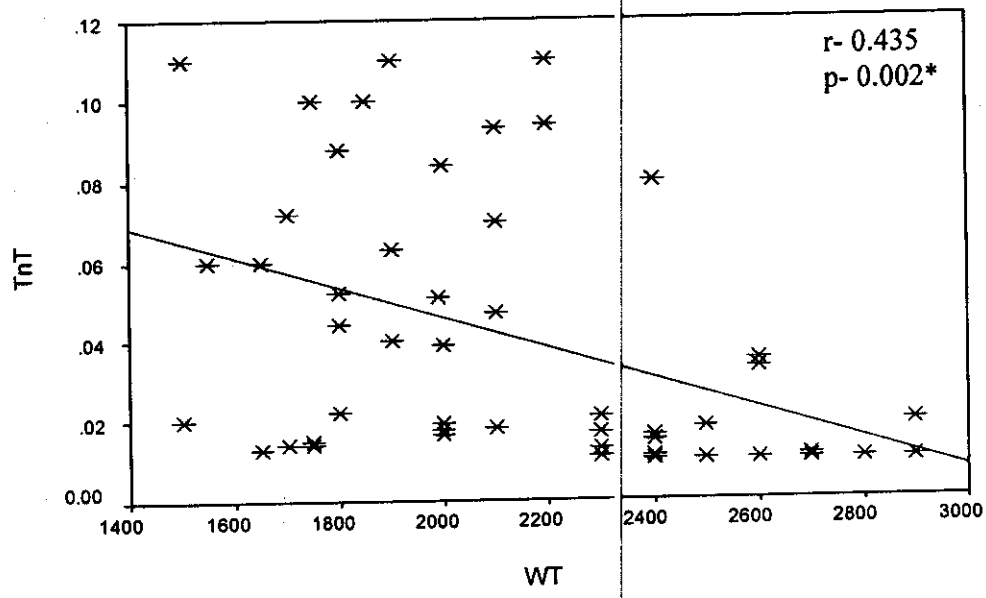

Fig. (26): Shows no statistical significant correlation of Tn T level with the weigh in the studied groups

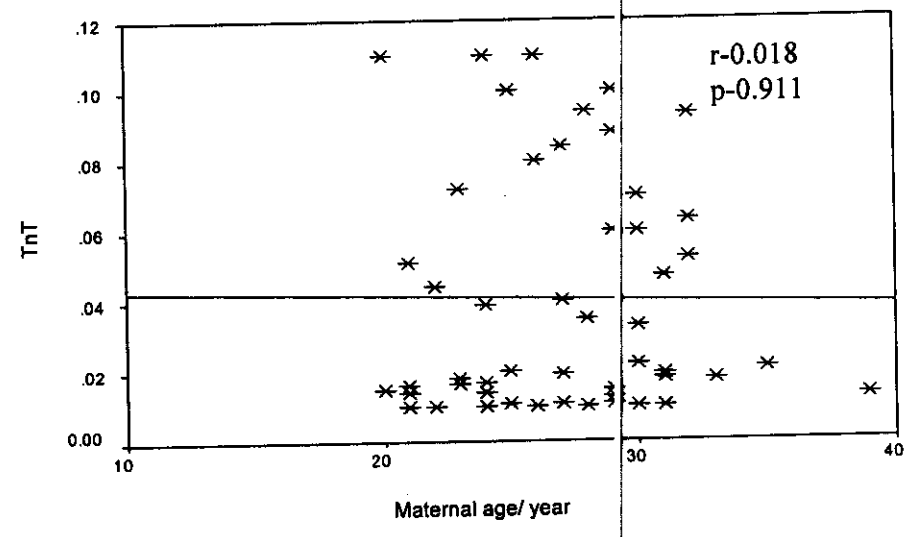

Fig. (27): Shows no statistical significant correlation of the Tn T level with maternal age in the studied groups

Graph

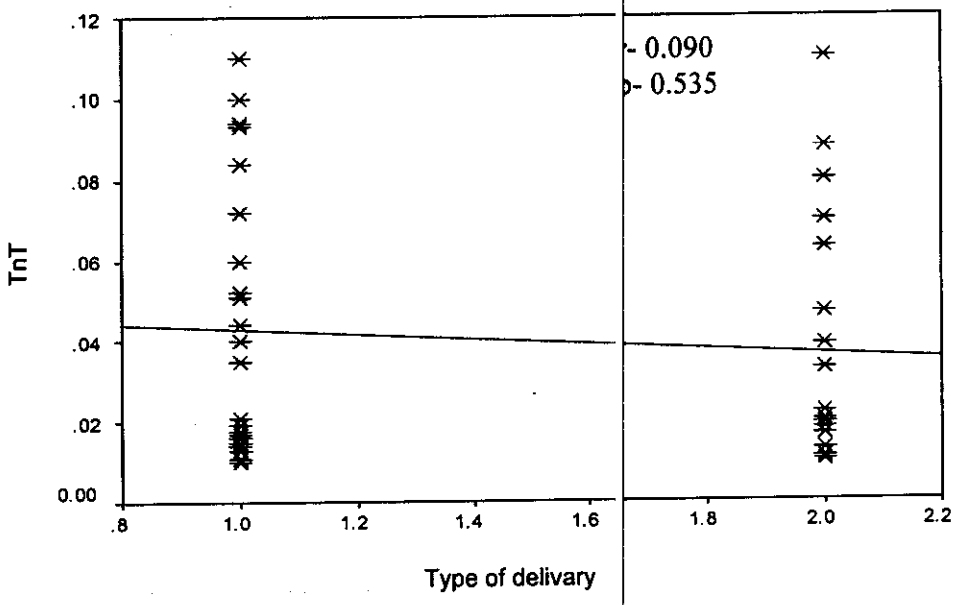

Fig. (28): Shows no statistical significant correlation of Tn T level with the type of delivery in the studied groups

Graph

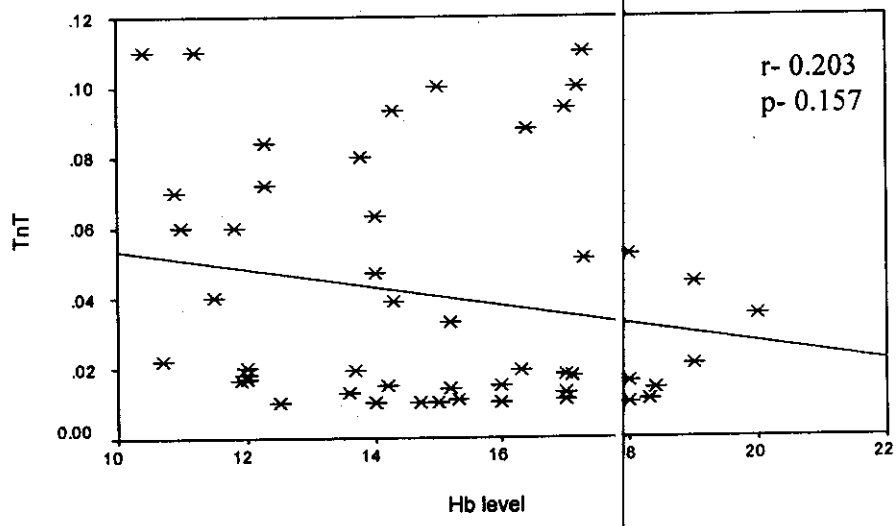

Fig. (29): Shows no statistical significant correlation of Tn T level with Hb level in the studied groups.

Graph

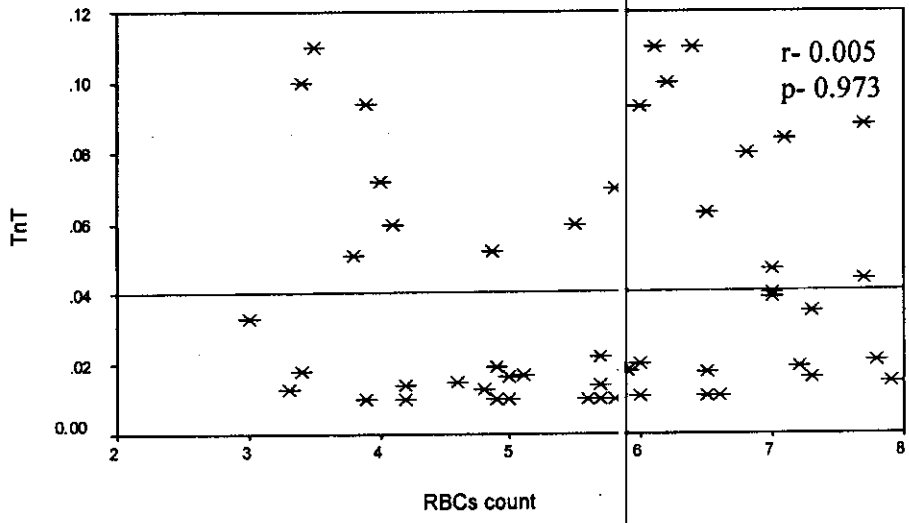

Fig. (30): Shows no statistical significant correlation of Tn T level with RBCs count in the studied groups

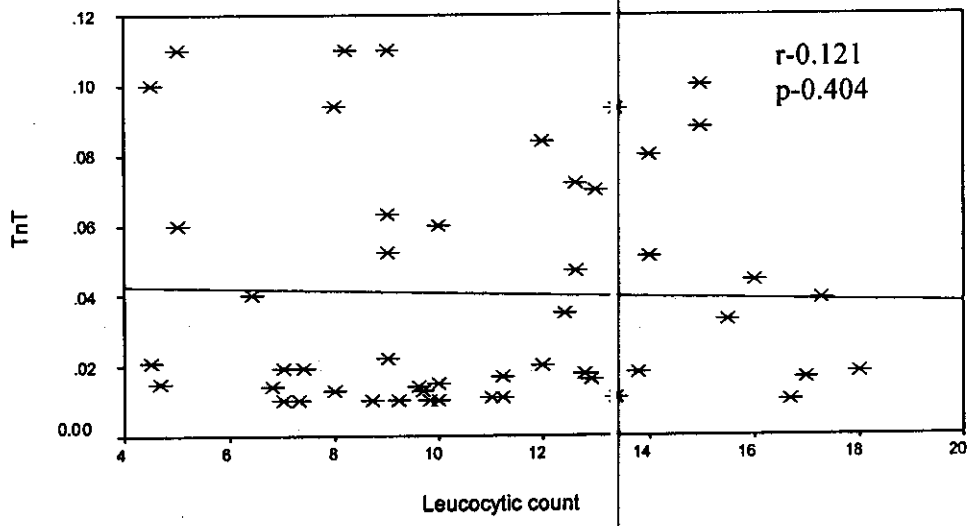

Fig. (31): Shows no statistical significant correlation of the Tn T level with leuocytic count in the studied groups

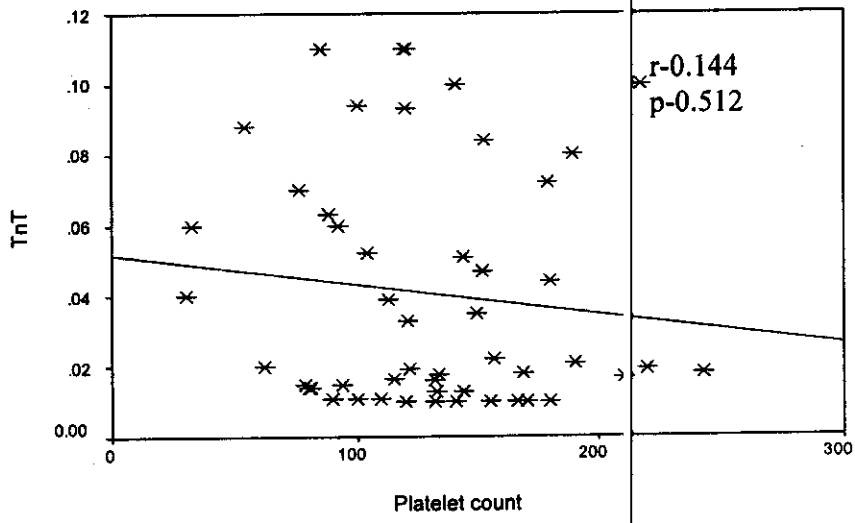

Fig. (32): Shows no statistical significant correlation of the Tn T level with platelet count in the studied groups

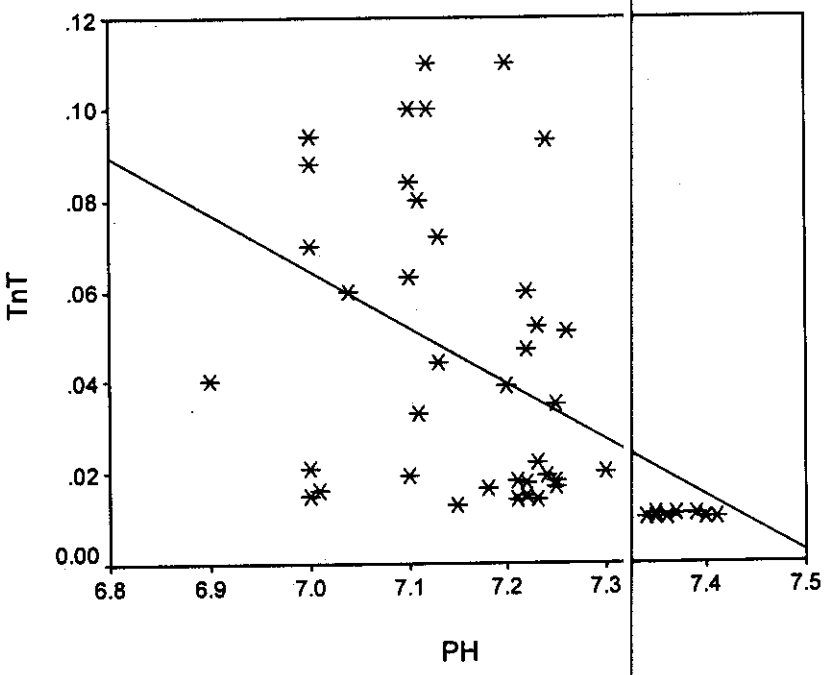

Fig. (33): Shows no statistical significant correlation of the Tn T level with arterial blood PH among studied groups

Graph

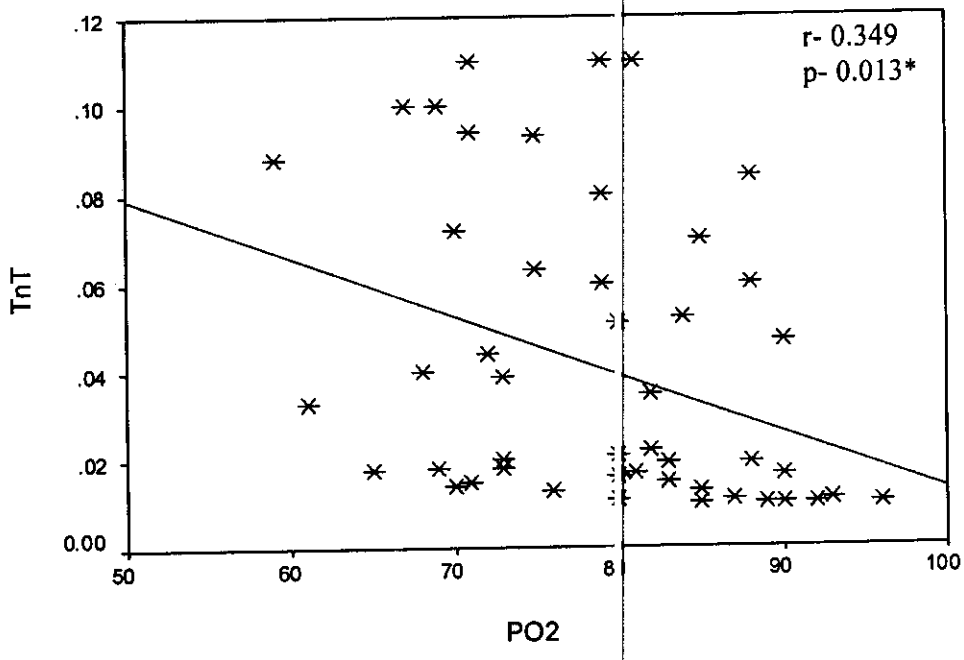

Fig. (34): Shows statistical significant negative correlation between Tn T level and arterial blood PO2 among the studied groups

Graph

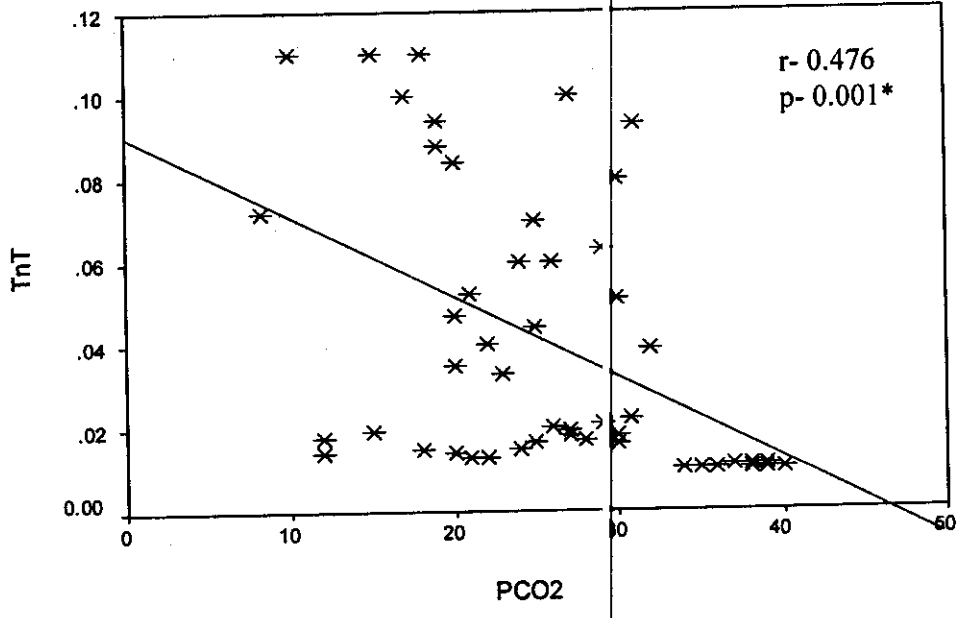

Fig. (35): Shows statistical significant negative correlation between Tn T level and arterial blood PCO2 among studied groups

Graph

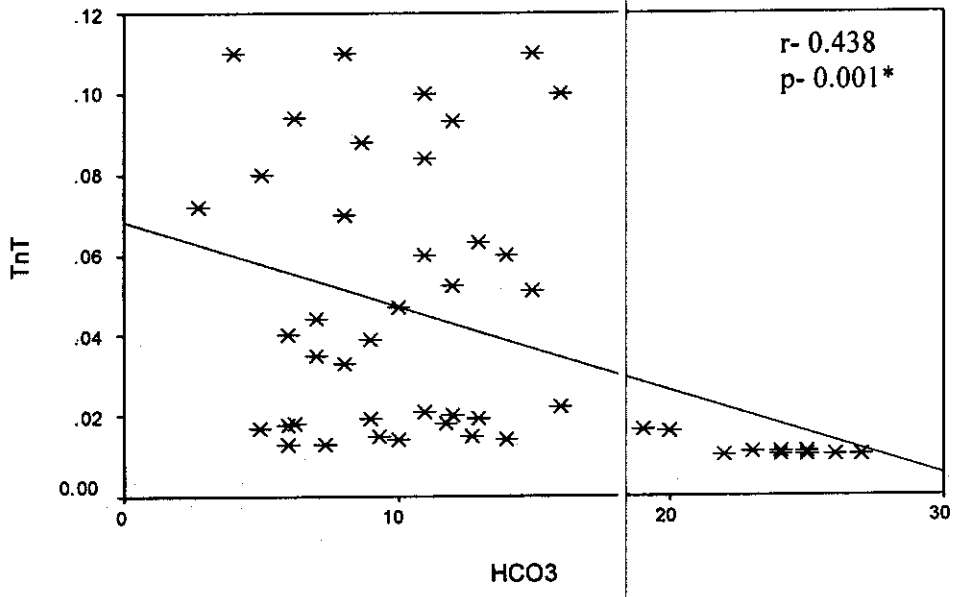

Fig. (36): Shows statistical significant negative correlation between Tn T level and arterial blood HCO3 among studied groups