

CHAPTER IV

RESULTS

IV- RESULTS

able (1)

mean, standard deviation and t test of hemoglobin (g/dl), RBCs (millions/mm³), hematocrit percentage and blood indices of infants before vaccination and on the nth day after vaccination.

	Before vaccination	10 days after vaccination	t test	P
	Mean	S.D.	Mean	S.D.
Hemoglobin g/dl	11.477	0.868	11.103	0.859
R.B.Cs count m / mm ³	4.709	0.462	4.728	0.412
Hematocrit %	37.884	3.958	37.852	3.698
M.C.V	80.507	6.130	80.180	5.952
M.C.H	24.369	2.148	23.552	2.052
M.C.H.C	30.462	2.641	29.483	2.545
			4.774	<0.001
			6.182	<0.001
			0.594	N.S.
			0.185	N.S.
			0.498	N.S.
			5.466	<0.001

There is a decrease in hemoglobin level (Figure 1-a) and was found to be statistically significant. There is no significant difference in both red blood cell

count (Figure 2) and hematocrit (Figure 3) before and after vaccination. Blood indices showed that there is no significant difference in MCV (Figure 4) but MCH (Figure 5) and MCHC (Figure 6) were significantly lower on the tenth day after vaccination than before vaccination.

The mean difference in hemoglobin level was -0.37 g/dl. In 6.7% of the infants, the hemoglobin values decreased >1.0 g/dl, and 36.7% had a decline from 5 to 1.0 g/dl. In 30% the decreased was less than 0.5 g/dl while 26.6 showed no range or slight increase. This is shown in table (2) and figure (1-b).

Table (2): Frequency table of hemoglobin decrease from day (0) to the tenth day after immunization.

Decrease in hemoglobin level	No. of Infants	Percentage (%)
Decrease >1.0 g/dl	2	6.7
Decrease $0.5-1.0$ g/dl	11	36.7
Decrease <0.5 g/dl	9	30
No change or slight increase	8	26.6
Total	30	100

Hemoglobin

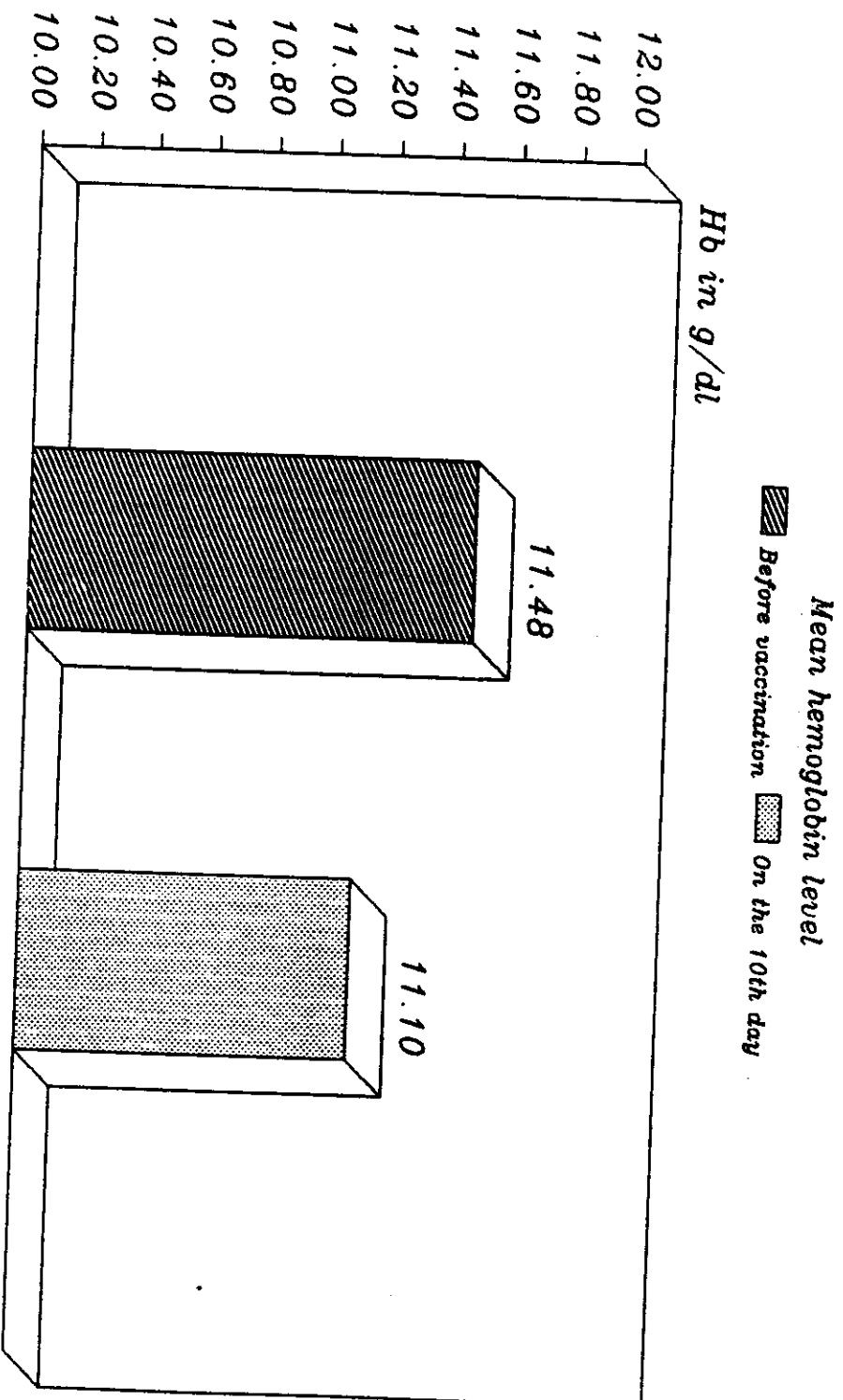
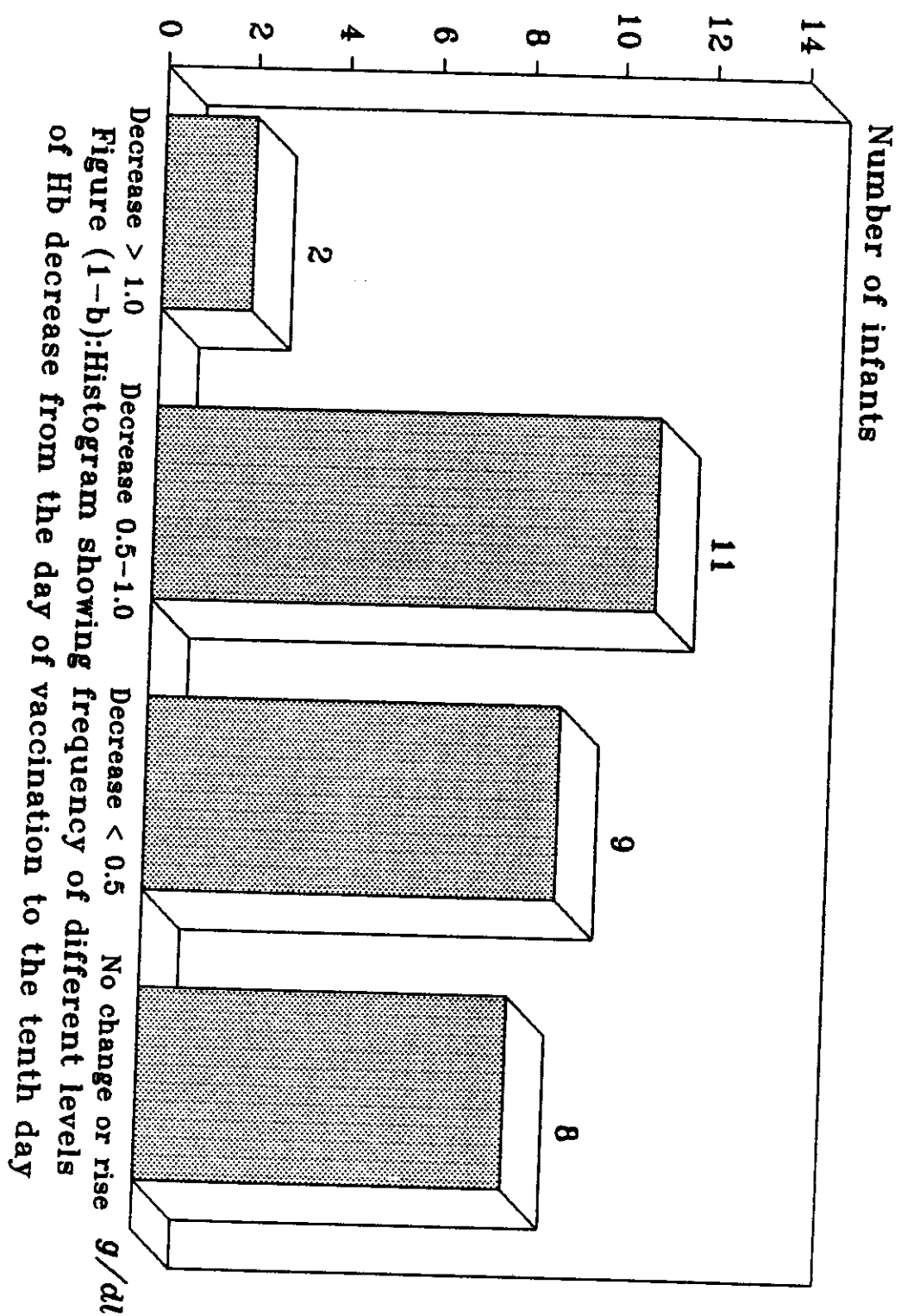


Figure (1-a) Mean level of hemoglobin before and on the 10th day after vaccination

Frequency of hemoglobin decrease



Red Blood Cells

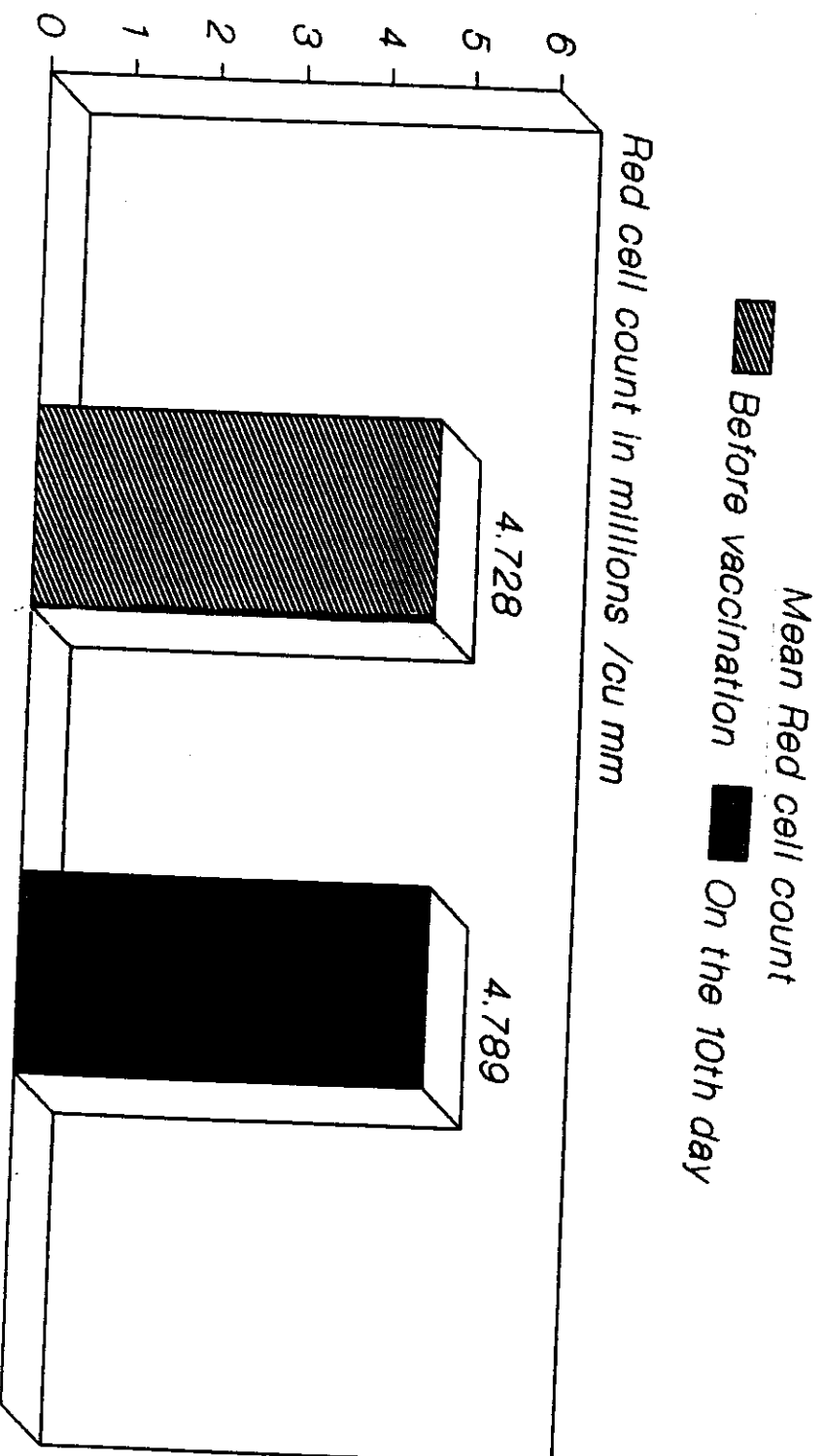


Figure (2) Mean red blood cells count before, and on the 10th day after vaccination

PCV

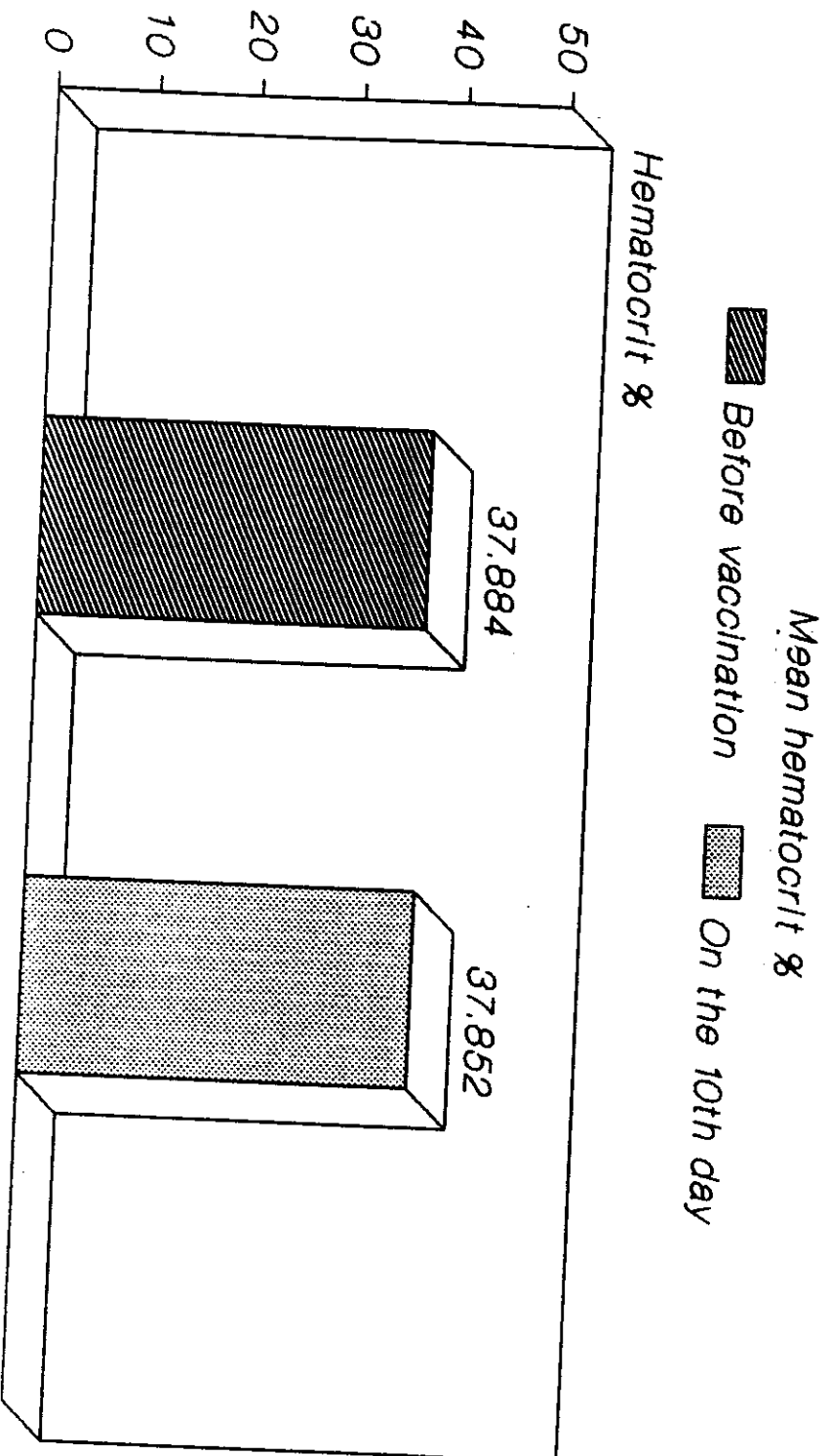


Figure (3) Mean packed cell volume (hematocrit) percentage before and on the 10th day after vaccination

MCV

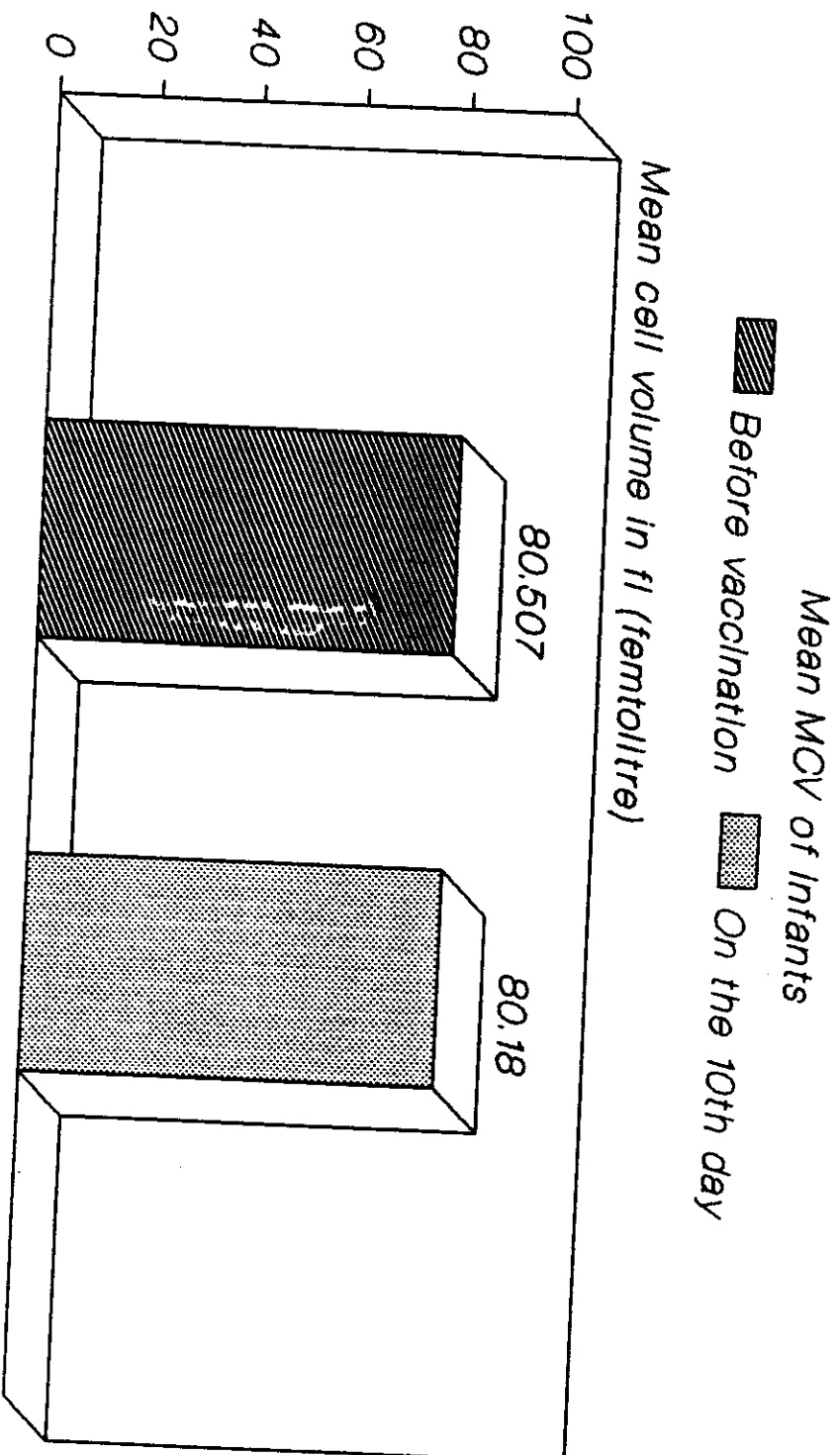


Figure (4) Mean MCV (mean corpuscular volume) before and on the 10th day after vaccination

MCH

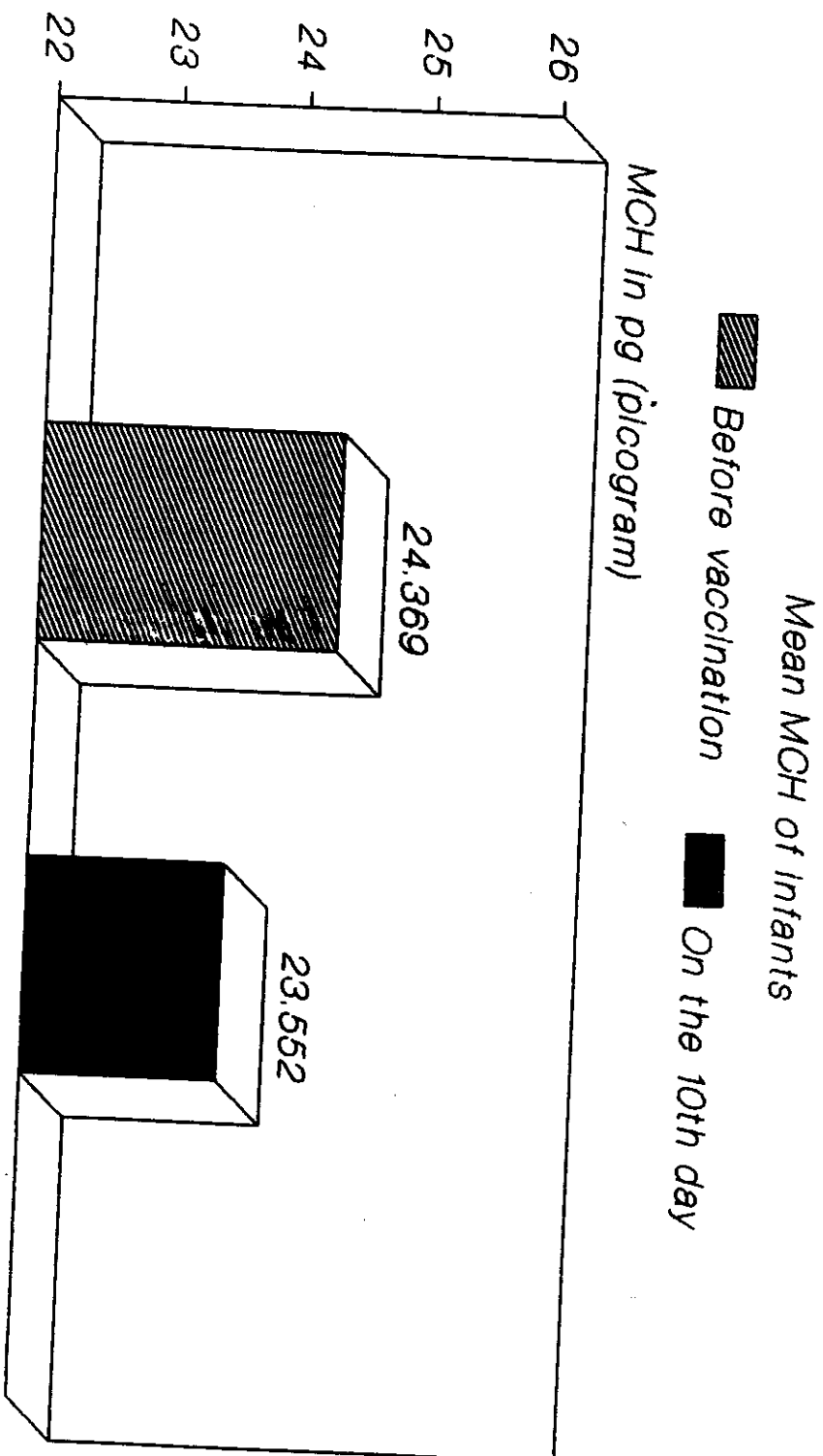


Figure (5) Mean MCH (mean corpuscular hemoglobin) before and on the 10th day after vaccination

MCHC

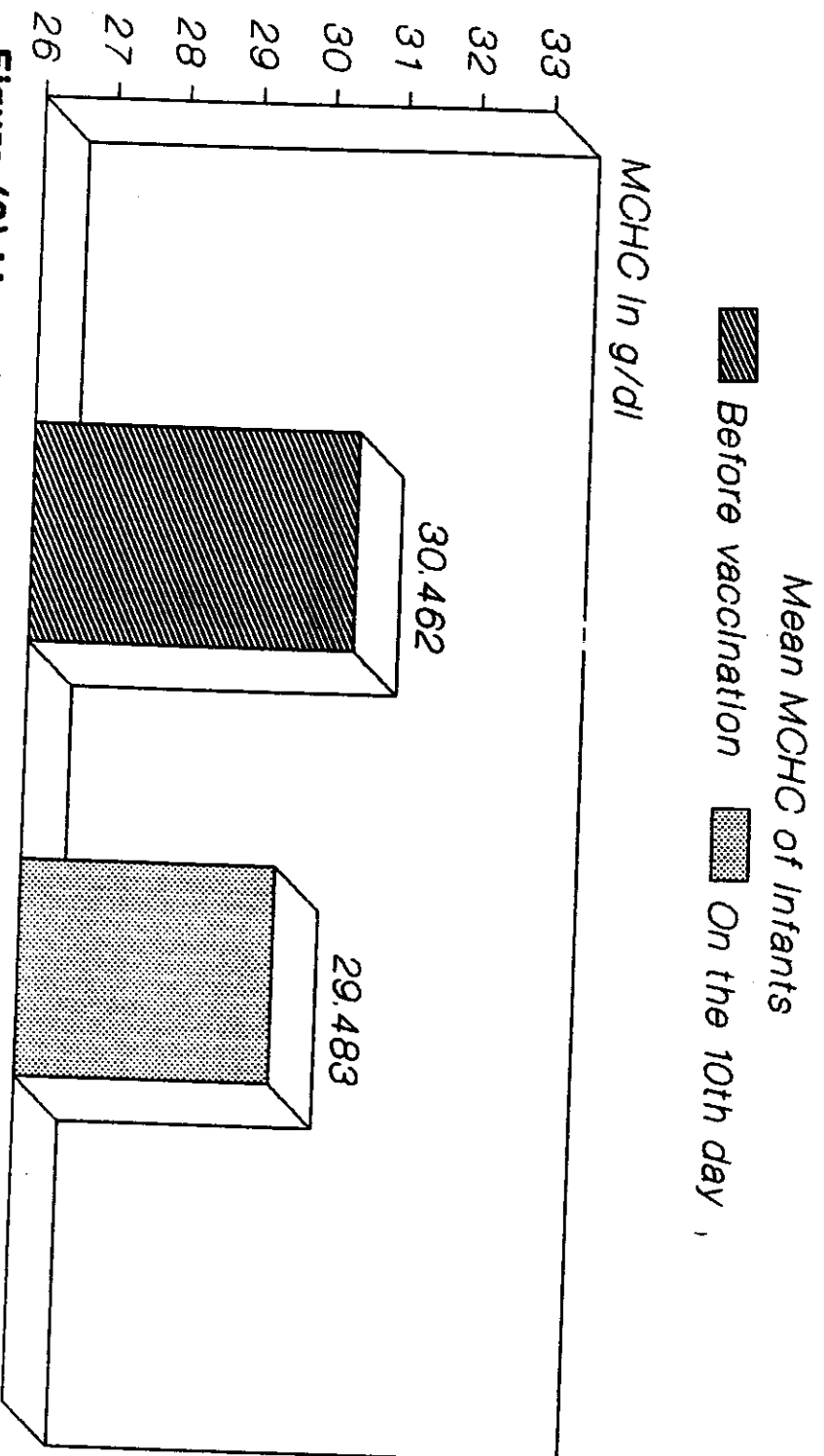


Figure (6) Mean MCHC (mean corpuscular hemoglobin concentration) before and on the 10th day after vaccination

Table (3)

mean, standard deviation, and t test of serum iron level and total iron binding capacity of infants before vaccination and on the tenth day after vaccination.

	Before vaccination	10 days after vaccination	t test	P
	Mean	S.D.	Mean	S.D.
Serum iron level $\mu\text{g/dl}$	80.967	16.477	73.767	16.357
T.I.B.C. $\mu\text{g/dl}$	311.9	46.812	316.9	39.547
			1.571	4.683
				N.S.

There is a statistically significant decrease in serum iron level on the tenth day after vaccination than before vaccination (figure 7). While there is no significant difference in TIBC (figure 8).

Serum Iron

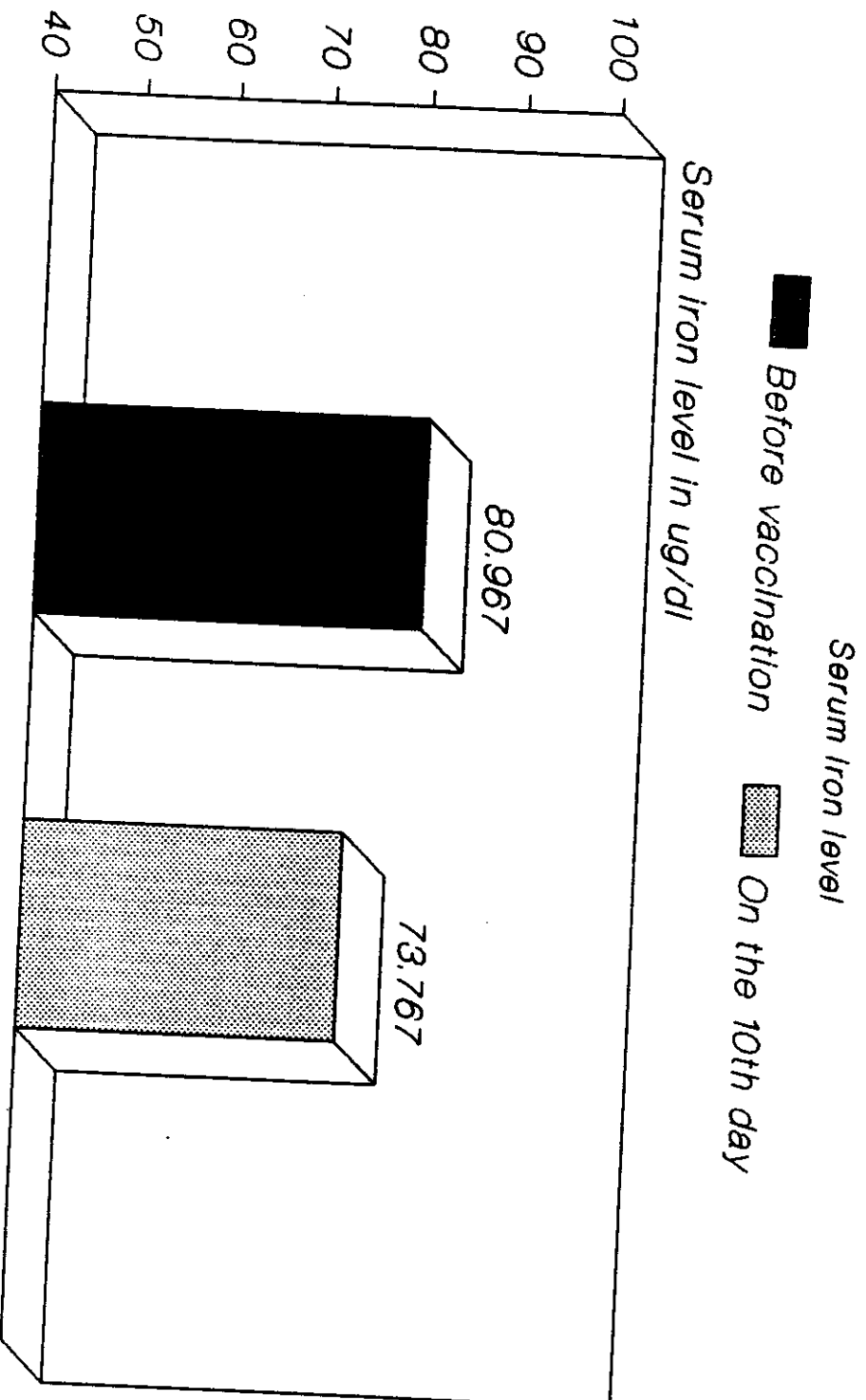


Figure (7) Mean serum iron level of infants before and on the 10th day of vaccination

TIBC

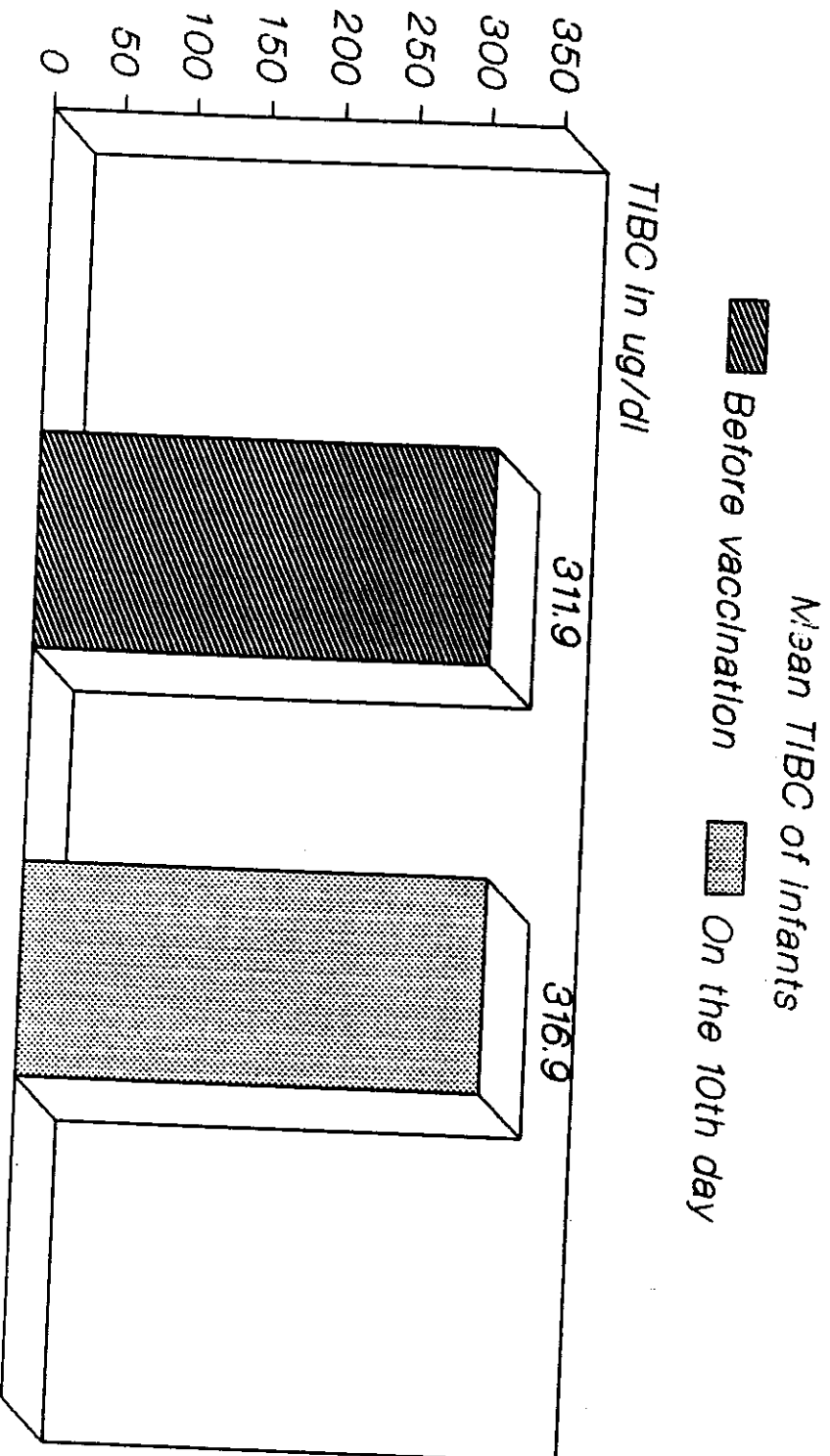


Figure (8) Mean total iron binding capacity (TIBC) before and on the 10th day after vaccination

Mean, standard deviation, and t test of reticulocyte count (per mm³), and telet count (per mm³), of infants before vaccination and on the tenth day after vaccination.

		reticulocyte %	reticulocyte count/mm ³	platelet count/mm ³
Before vaccination	Mean	1.383	66914	255666
	S.D.	0.314	15144	69319
10 days after vaccination	Mean	1.300	59923	234166
	S.D.	0.333	12918	6196
t test		1.613	2.688	5.288
P		N.S.	0.012	<0.001

The mean reticulocyte count showed slight decrease on the tenth day after vaccination, which was not statistically significant when expressed in percentage. On the other hand, when expressed in absolute numbers it was significantly increased (figure 9). Platelet count is significantly lower on the tenth day of vaccination than before vaccination (figure 10).

Reticulocyte count

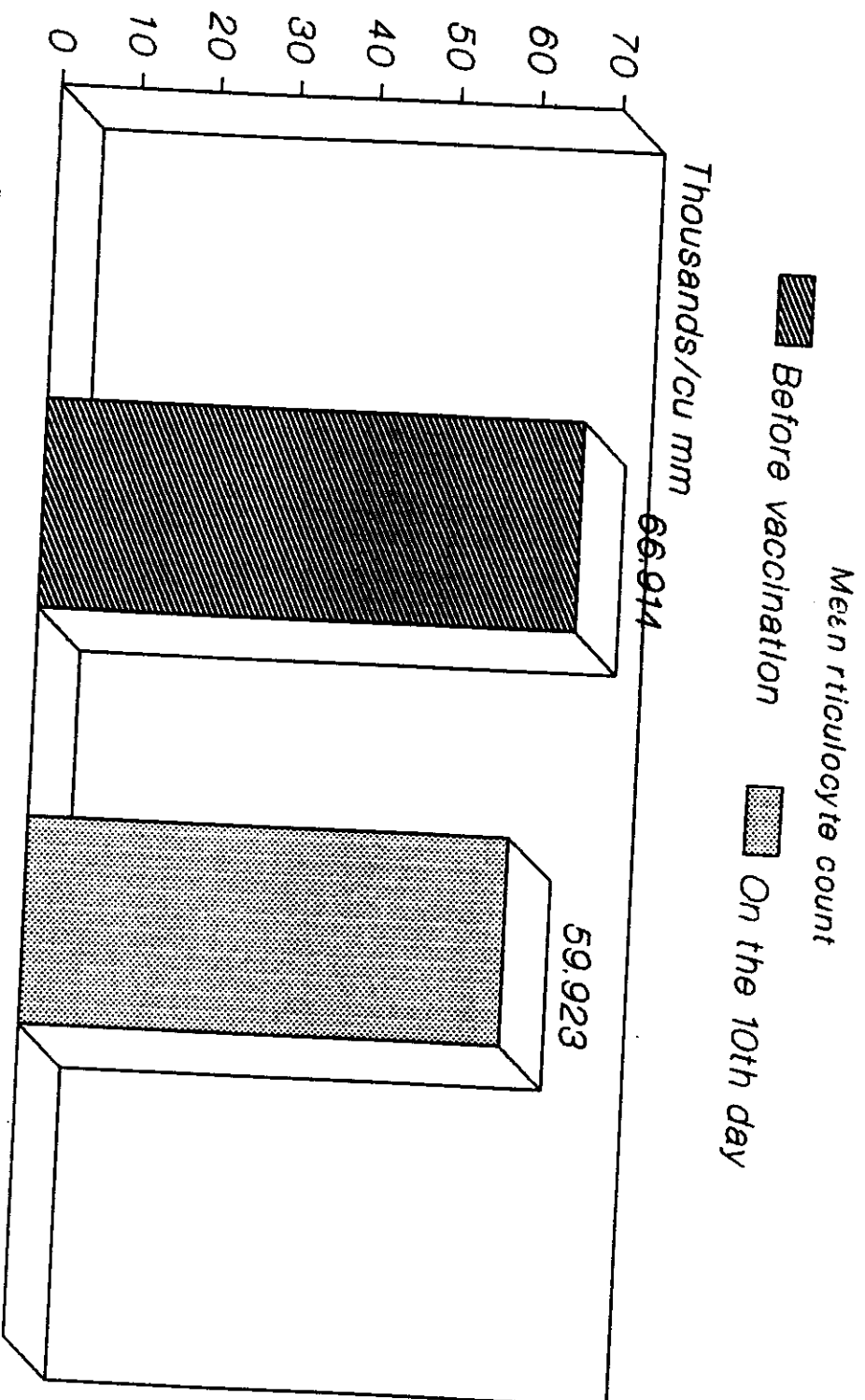


Figure (9) Mean reticulocyte count of infants before and on the 10th day of vaccination

Platelet count

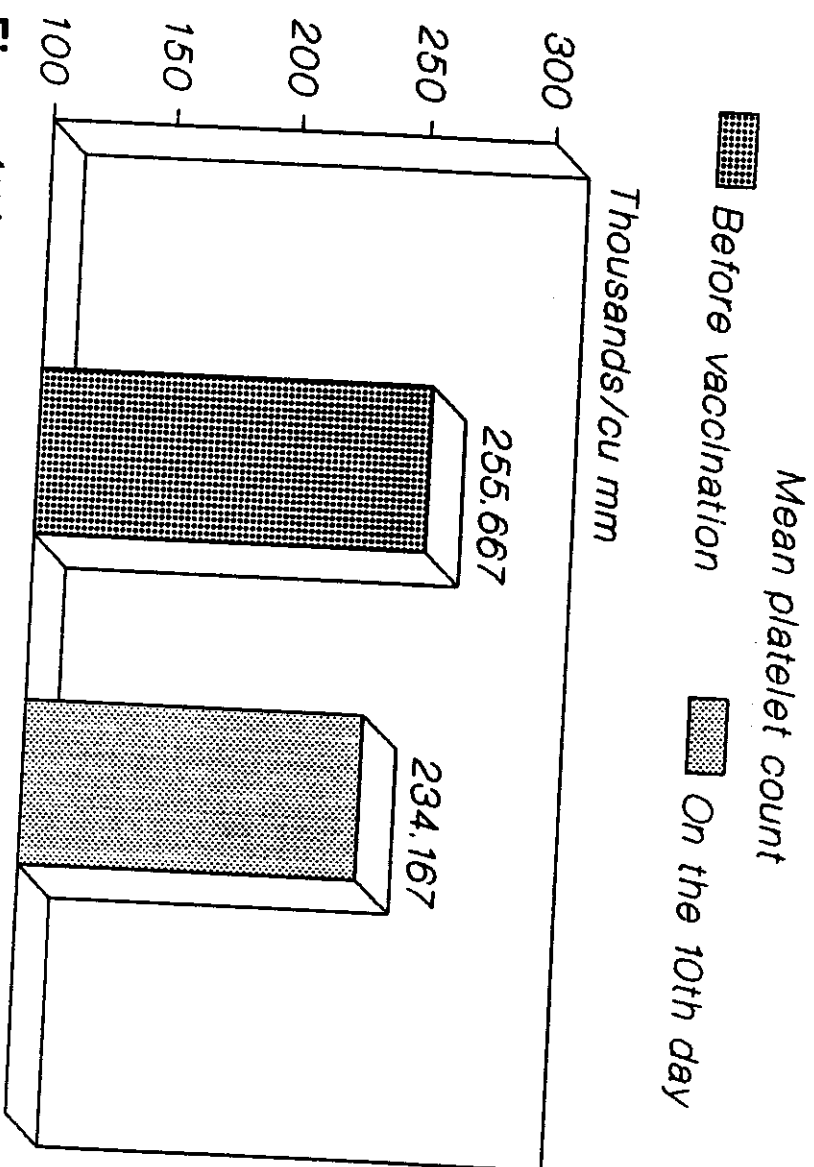


Figure (10) Mean platelet count before and on the 10th day after vaccination

able (5)

mean, standard deviation, and t test of total and differential leucocyte count expressed as the percentage of each type of cell) of infants before vaccination and 1 the tenth day after vaccination.

	Before vaccination		10 days after vaccination		t test	P
	Mean	S.D.	Mean	S.D.		
WBC count/mm ³	6036.66	1137.5	6063.33	1064.9	0.454	N.S.
Differential count	0.033	0.183	0.1	0.403	0.812	N.S.
Basophil %	1.1	1.029	1.033	1.098	0.304	N.S.
Eosinophil %	44.2	6.779	44.533	6.180	0.639	N.S.
Neutrophils %	50.767	6.527	49.967	5.991	1.235	N.S.
Lymphocytes %	4.5	1.676	4.4	1.754	0.297	N.S.
Monocytes %						

There is neither significant difference in total White blood cell count (figure nor the differential count when expressed as percentage of each type of cell. The same finding was attained when expressed as absolute numbers per mm^3 . This is demonstrated in table (6) and figure (12).

Table (6)

Mean, standard deviation, and t test of differential leucocyte count (expressed in absolute numbers of each type of cell per mm^3) of infants before vaccination and on the 10th day after vaccination.

	Before vaccination		10 days after vaccination		t test	P
	Mean	S.D.	Mean	S.D.		
Eosinophil	2.067	11.32	6.533	26.6	1.00	N.S.
Neutrophils	66.033	63.32	62.267	65.23	0.274	N.S.
Lymphocytes	2627.0	588.4	2647.6	552.3	0.331	N.S.
Monocytes	3034.6	740.8	3048.0	772.8	0.234	N.S.
Basophils	278.97	130.7	270.17	124.7	0.409	N.S.

Total White Blood Cells

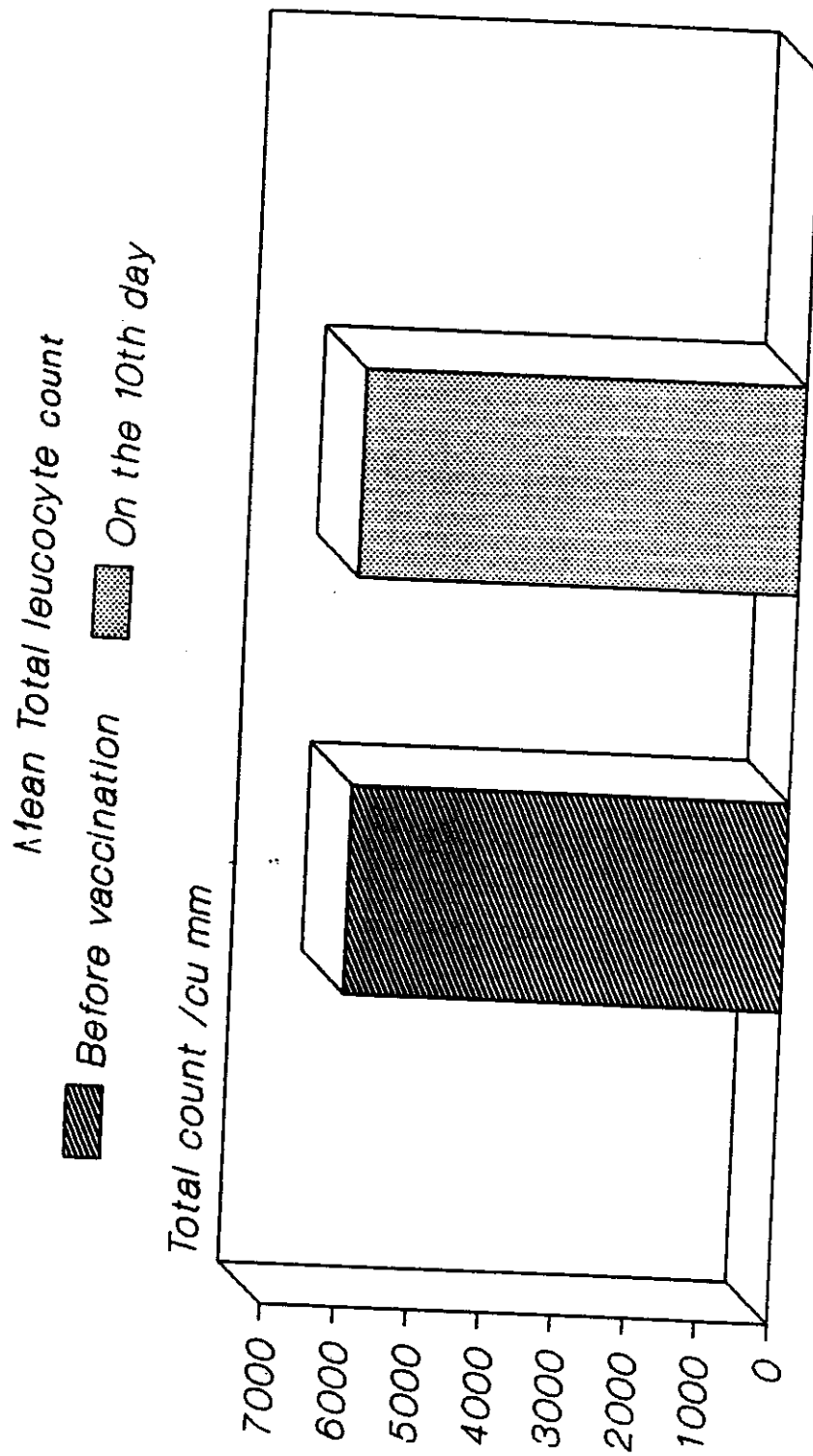


Figure (11) Mean total leucocyte count of infants before and on the 10th day after vaccination

Differential Leucocyte Count

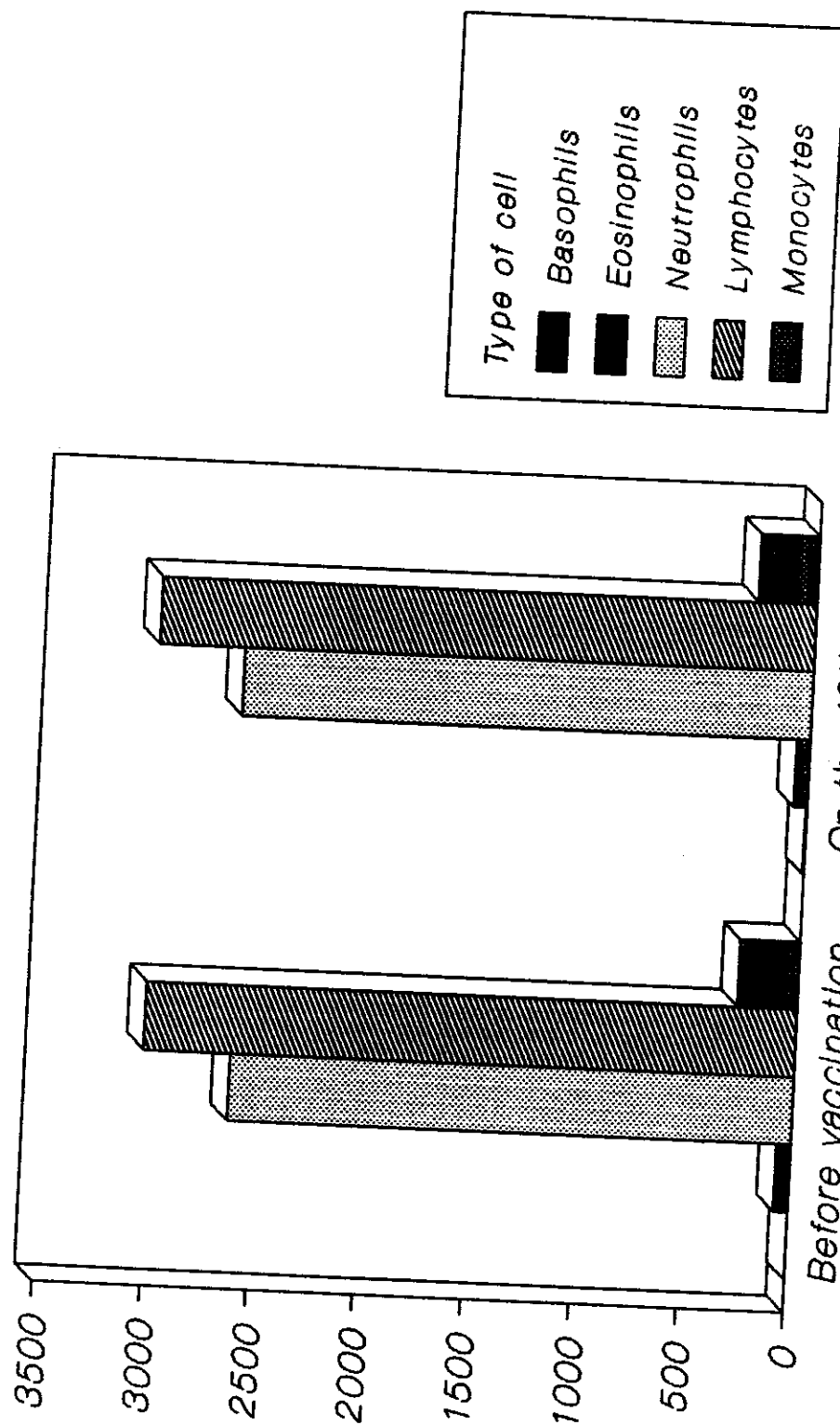


Figure (12) Mean differential leucocyte count expressed in numbers before and on the 10th day after vaccination

able (7)

lean, standard deviation and t test of the number of neutrophils phagocytosing candida in infants before vaccination and on the tenth day after vaccination.

	Before vaccination	ten days after vaccination
Mean	5.563	5.688
S.D.	1.153	1.014
t test	0.460	
P	N.S.	

There is no significant difference in the phagocytic function of polymorphonuclear leukocytes before and on the tenth day after vaccination (figure 13)

Phagocytosis

Percentage of functioning neutrophils



Before vaccination



On the 10th day

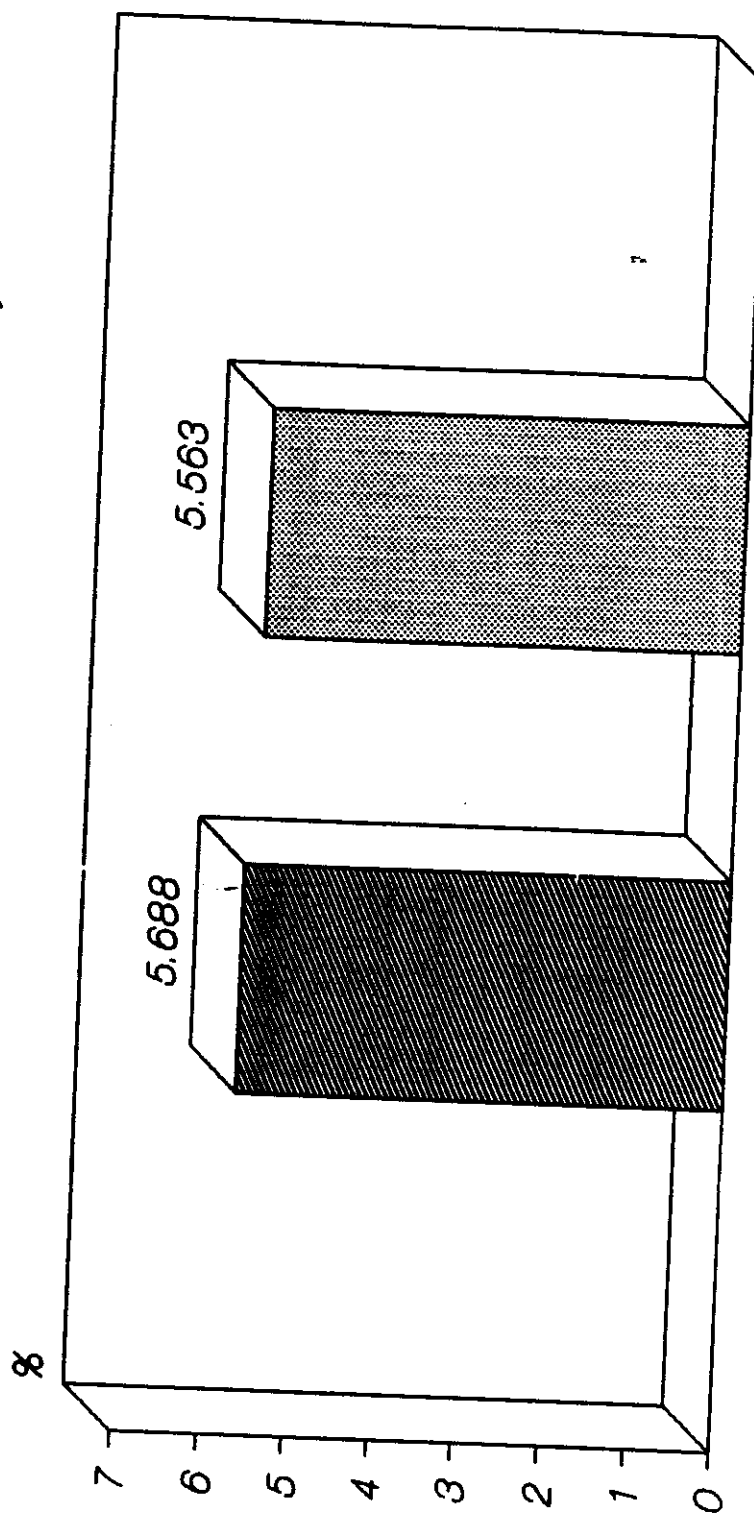


Figure (13) The number of neutrophils phagocytosing candida per 100 cells before and on the 10th day after vaccination