

## **RESULTS**

## RESULTS

The clinical, biochemical and immunological data of children are listed in Tables 1:12.

### Statistical Analysis

The statistical analysis of results was done by an IBM-PC computer using a statistical package which yeilded the results of different tests and their significance and executed the needed graphic representation as pie-charts, bar diagrams and scatterplots. Details of statistical formulae are found in standard statistical books (Armitag, 1971).

### Descriptive Statitics (Tables 13:16)

The individual results of children studied were listed and summarized by:

- (1) The mean: indicating the central tendency of results.
- (2) The standard deviation: which is a measure of dispersion of observations around the mean.
- (3) The minimum and maximum observations as an indication of the range of results.

### Comparison of Means (Tables 17:26, Figures 11:15)

Comparison of means of different groups was

done by the student's t-test. The power of the test depends on the variation of results and number of observations. It produces a statistic called  $t$ - which is compared against critical values in special tables. This comparison gives the  $p$ -values which indicates the probability of error of the results on the degree of significance. The highest acceptable probability of error is 5%. Higher values indicate insignificant differences.

**Regression Analysis (Correlation Studies) (Tales 27:30, Figures 16:24).**

The relation between two quantitative variables was done by the  $r$ -test which gave an  $r$ -statistics used to get the  $p$ -value. Such a relation was represented by a scatterplot with two axes representing the two variables studied ( $x$  and  $y$ ). The scatterplot could be represented by a straight line which passed by the point of means of  $x$  and  $y$ , and the intercept which is a  $y$  with  $x=0$ . The slope of this regression line indicated the type of correlation between the two variables (+ve or -ve i.e. +ve slope or -ve slope) and its intensity. Significance of the slope was known by the  $p$ -value and the threshold of significance was always at the 5% level.

## ANALYSIS OF RESULTS

### I- Corticosteroid Responsive Group (Active Nephrosis)

The urinary protein loss in 24 hours ranged from 1.500 to 4.000 with a mean value of  $3.118 \pm 0.729$  gm [Table 13]. That was significantly higher than the protein loss in normal children with a mean value of  $0.079 \pm 0.031$  gm ( $P < 0.001$ ) [Table 17, Figure 11].

The plasma proteins ranged from 4.600 to 6.500 with a mean value of  $5.781 \pm 0.622$  gm% [Table 13], significantly lower than in normal children ( $7.688 \pm 0.666$  gm%) ( $P < 0.001$ ) [Table 18, Figure 11].

The plasma albumin ranged from 1.240 to 2.340 with a mean value of  $1.781 \pm 0.399$  gm% [Table 13], significantly lower than in normal children ( $4.987 \pm 0.369$  gm%) ( $P < 0.001$ ) [Table 19, Figure 11].

The serum cholesterol ranged from 250.000 to 715.000 with a mean value of  $571.000 \pm 126.777$  mg% [Table 13], significantly higher than in normal children ( $197.300 \pm 25.298$  mg%) ( $P < 0.001$ ) [Table 20, Figure 12].

Serum low density lipoprotein (LDL) ranged from 160.260 to 450.000 with a mean value of  $341.357 \pm 84.584$  mg% [Table 13], significantly higher than

in normal children ( $115.510 \pm 14.452$  mg%) ( $P < 0.001$ ) [Table 21, Figure 12].

Serum very low density lipoprotein (VLDL) ranged from 36.000 to 116.000 with a mean value of  $74.272 \pm 30.116$  mg% [Table 13], significantly higher than in normal children ( $17.540 \pm 3.518$  mg%) ( $P < 0.001$ ) [Table 22, Figure 12].

Plasma zinc ranged from 36.000 to 50.000 with a mean value of  $42.090 \pm 4.969$   $\mu$ g% [Table 13], significantly lower than in normal children ( $106.050 \pm 25.097$   $\mu$ g%) ( $P < 0.001$ ) [Table 23, Figure 13].

Hair zinc ranged from 50.000 to 90.000 with a mean value of  $70.454 \pm 12.770$   $\mu$ g/gm. [Table 13], significantly lower than in normal children ( $145.950 \pm 42.355$   $\mu$ g/gm) ( $P < 0.001$ ) [Table 24, Figure 13].

The rosette formation ranged from 64.000 to 83.000 with a mean value of  $72.090 \pm 6.252\%$  [Table 13], significantly higher than in normal children ( $62.000 \pm 6.018\%$ ) ( $P < 0.001$ ) [Table 25, Figure 14].

The cultured lymphocytes (in absence of plasma) transformed to blast cells ranged from 60.000 to 69.000 with a mean value of  $65.727 \pm 3.227\%$  [Table 13], significantly lower than in normal children (81.600

$\pm 0.699\%$ ) ( $P < 0.001$ ) [Table 26, Figure 14].

Adding the autologous plasma to the cultured lymphocytes, the blastoid transformation ranged from 21.000 to 50.000 with a mean value of  $34.636 \pm 10.269\%$  [Table 13]. Thus plasma had an inhibitory effect on blastoid transformation which ranged from 18.000 to 44.000 with a mean value of  $31.090 \pm 9.256\%$  [Table 13], significantly lower than cultured lymphocytes in absence of plasma ( $P < 0.001$ ) [Figure 15].

Adding the autologous plasma devoid of LDL and VLDL to the cultured lymphocytes, the blastoid transformation ranged from 43.000 to 65.000 with a mean value of  $55.000 \pm 7.183\%$  [Table 13]. Thus there was a role of LDL and VLDL in the inhibitory effect of plasma. That role ranged from 14.000 to 27.000 with a mean value of  $20.363 \pm 3.748\%$  [Table 13]. This inhibitory effect was significant ( $P < 0.001$ ) [Figure 15].

Still other plasma constituents had an inhibitory role ranged from 2.000 to 17.000 with a mean value of  $10.727 \pm 5.815\%$  [Table 13], which is significant ( $P < 0.001$ ) [Figure 15].

## **II- Corticosteroid Resistant Group**

The urinary protein loss in 24 hours ranged

from 2.400 to 8.180 with a mean value of  $4.675 \pm 1.915$  gm [Table 14], significantly higher than in control group ( $P < 0.001$ ) and higher than in responsive group ( $P < 0.001$ ) [Table 17, Figure 11].

The plasma proteins ranged from 3.800 to 4.700 with a mean value of  $4.144 \pm 0.335$  gm% [Table 14], significantly lower than in control group ( $P < 0.001$ ) and lower than in responsive group ( $P < 0.001$ ) [Table 18, Figure 11].

The plasma albumin ranged from 1.200 to 1.530 with a mean value of  $1.382 \pm 0.118$  gm% [Table 14], significantly lower than in control group ( $P < 0.01$ ) [Table 19, Figure 11].

Serum cholesterol ranged from 532.000 to 800.000 with a mean value of  $694.111 \pm 87.801$  mg% [Table 14], significantly higher than in control group ( $P < 0.001$ ) and higher than in responsive group ( $P < 0.01$ ) [Table 20, Figure 12].

Serum LDL ranged from 300.050 to 480.440 with a mean value of  $422.288 \pm 54.916$  mg% [Table 14], significantly higher than in control group ( $P < 0.001$ ) and higher than in responsive group ( $P < 0.01$ ) [Table 21, Figure 12].

Serum VLDL ranged from 51.000 to 120.000 with

a mean value of  $89.000 \pm 25.059$  mg% [Table 14], significantly higher than in control group ( $P < 0.001$ ), and non significantly higher than in responsive group [Table 22, Figure 12].

Plasma zinc ranged from 30.000 to 46.000 with a mean value of  $38.555 \pm 6.043$   $\mu$ g% [Table 14], significantly lower than in control group ( $P < 0.001$ ), with no significant difference to responsive group [Table 23, Figure 13].

Hair zinc ranged from 43.000 to 92.000 with a mean value of  $69.333 \pm 16.762$   $\mu$ g/gm [Table 14], significantly lower than in control group ( $P < 0.001$ ), with no significant difference to responsive group [Table 24, Figure 13].

The rosette formation ranged from 65.000 to 83.000 with a mean value of  $71.555 \pm 5.294$ % [Table 14] significantly higher than in control group ( $P < 0.001$ ), with no significant difference to responsive group [Table 25, Figure 14].

The cultured lymphocytes (in absence of plasma) transformed to blast cells ranged from 55.000 to 65.000 with a mean value of  $60.444 \pm 3.126$ % [Table 14], significantly lower than in control group ( $P < 0.001$ )

and lower than in responsive group ( $P < 0.001$ ) [Table 26, Figure 14].

Adding the autologous plasma, the blastoid transformation ranged from 17.000 to 37.000 with a mean value of  $26.444 \pm 6.222\%$  [Table 14].

The inhibitory effect of plasma ranged from 26.000 to 42.000 with a mean value of  $34.000 \pm 5.700\%$  [Table 14], which was significantly lower than cultured lymphocytes in absence of plasma ( $P < 0.001$ ) [Figure 15].

Adding the autologous plasma devoid of LDL and VLDL to the cultured lymphocytes, the blastoid transformation ranged from 37.000 to 50.000 with a mean value of  $43.440 \pm 3.480\%$  [Table 14].

The inhibitory role of LDL and VLDL ranged from 13.000 to 20.000 with a mean value of  $16.894 \pm 2.671\%$  [Table 14], which was significant ( $P < 0.001$ ) [Figure 15].

The inhibition of other plasma constituents ranged from 13.000 to 22.000 with a mean value of  $17.115 \pm 3.146\%$  [Table 14], which was significant ( $P < 0.001$ ) [Figure, 15].

### III- Remission Group

The urinary protein loss in 24 hours ranged from 0.020 to 0.140 with a mean value of  $0.070 \pm 0.036$  gm, [Table 15], not significantly different from that in control group, but significantly lower than the active responsive group ( $P < 0.001$ ) [Table 17, Figure 11].

The plasma proteins ranged from 5.820 to 7.800 with a mean value of  $6.708 \pm 0.624$  gm% [Table 15], significantly lower than in control group ( $P < 0.001$ ), and significantly higher than in active responsive group ( $P < 0.001$ ) [Table 18, Figure 11].

The plasma albumin ranged from 4.000 to 4.930 with a mean value of  $4.425 \pm 0.298$  gm% [Table 15], significantly lower than in control group ( $P < 0.001$ ), while significantly higher than in active responsive group ( $P < 0.001$ ) [Table 19, Figure 11].

Serum cholesterol ranged from 160.000 to 215.000 with a mean value of  $195.583 \pm 19.247$  mg% [Table 15], significantly higher than in control group ( $P < 0.01$ ), while significantly lower than in active responsive group ( $P < 0.001$ ) [Table 20, Figure 12].

Serum LDL ranged from 110.480 to 152.200 with

a mean value of  $134.364 \pm 16.302$  mg% [Table 15], significantly higher than in control group ( $P < 0.01$ ) while significantly lower than in active responsive group ( $P < 0.001$ ) [Table 21, Figure 12].

Serum VLDL ranged from 13.200 to 24.000 with a mean value of  $17.600 \pm 3.171$  mg% [Table 15], with no significant difference with the control group, but significantly lower than in active responsive group ( $P < 0.001$ ) [Table 22, Figure 12].

Plasma zinc ranged from 53.500 to 74.000 with a mean value of  $64.458 \pm 6.118$   $\mu$ g% [Table 15], significantly lower than in control group ( $P < 0.001$ ) while significantly higher than in active responsive group ( $P < 0.001$ ) [Table 23, Figure 13].

Hair zinc ranged from 80.000 to 125.000 with a mean value of  $102.500 \pm 13.714$   $\mu$ g/mg [Table 15], significantly lower than in control group ( $P < 0.001$ ), while significantly higher than in active responsive group ( $P < 0.001$ ) [Table 24, Figure 13].

The rosette formation ranged from 54.000 to 72.000 with a mean value of  $61.916 \pm 5.728$ % [Table 15], not significantly different from the control group, while significantly lower than in active responsive group ( $P < 0.001$ ) [Table 25, Figure 14].

The cultured lymphocytes in absence of plasma transformed to blast cells ranged from 72.000 to 80.000 with a mean value of  $76.750 \pm 2.179\%$  [Table 15], significantly lower than in control group ( $P < 0.001$ ), while significantly higher than in active responsive group ( $P < 0.001$ ) [Table 26, Figure 14].

Adding the autologous plasma to the cultured lymphocytes, the blastoid transformation ranged from 64.000 to 75.000 with a mean value of  $72.000 \pm 3.045\%$  [Table 15]. The inhibitory effect of plasma ranged from 3.000 to 8.000 with a mean value of  $4.750 \pm 1.712\%$  [Table 15], which was significantly lower than cultured lymphocytes in absence of plasma ( $P < 0.001$ ) [Figure 15].

Adding the autologous plasma devoid of LDL and VLDL to the cultured lymphocytes, the blastoid transformation ranged from 67.000 to 77.000 with a mean value of  $72.833 \pm 2.886$  [Table 15]. The inhibitory role of LDL and VLDL ranged from 2.000 to 3.000 with a mean value of  $0.833 \pm 1.850\%$  [Table 15], which was not significant [Figure 15].

The inhibitory role of other plasma constituents ranged from 2.000 to 6.000 with a mean value of  $3.916 \pm 1.621\%$  [Table 15] which was significant ( $P < 0.001$ ) [Figure 15].

**BIOCHEMICAL CORRELATIONS (Tables 27:30)**

Plasma Albumin and Serum Cholesterol: A negative correlation was present in the active responsive group ( $P < 0.001$ ), the resistant group ( $P < 0.001$ ) and in the remission group ( $P < 0.001$ ).

Plasma Albumin and Serum LDL: A negative correlation was present in the active responsive group ( $P < 0.001$ ), the resistant group ( $P < 0.001$ ) and the remission group ( $P < 0.001$ ).

Plasma Albumin and Serum VLDL: A negative correlation was present in the active responsive group ( $P < 0.001$ ), the resistant group ( $P < 0.001$ ) and the remission group ( $P < 0.05$ ).

Plasma Albumin and Plasma Zinc: A positive correlation was present in the active responsive group ( $P < 0.001$ ), the resistant group ( $P < 0.001$ ) and the remission group ( $P < 0.001$ ).

Plasma Zinc and Hair Zinc: A positive correlation was present in the active responsive group ( $P < 0.001$ ), the resistant group ( $P < 0.001$ ) and the remission group ( $P < 0.001$ ).

## IMMUNO-BIOCHEMICAL CORRELATIONS

(Tables 27:30)

### Serum LDL and The Effect of Lipoproteins (LDL & VLDL) On Blastoid Transformation:

A positive correlation was present in the active responsive group ( $P < 0.001$ ) [ Fig.16] and the resistant group ( $P < 0.001$ ) [Fig. 19] but no correlation was evident in the remission group [Fig. 22].

### Serum VLDL and The Effect of Lipoprotein (LDL & VLDL) On Blastoid Transformation:

A positive correlation was present in the resistant group only ( $P < 0.001$ ) [Fig. 20]. No evident correlation was present either in the active responsive [Fig.17] or the remission groups [Fig. 23].

### Plasma Zinc and the Effect of Other Plasma Constituents on Blastoid Transformation:

A positive correlation was present in the active responsive group ( $P < 0.001$ ) [Fig. 18] and the resistant group ( $P < 0.001$ ) [Fig. 21]. No evident correlation was present in the remission group [Fig. 24].

Table (1): Clinical Data and Routine Investigations of Patients with  
Active Nephrotic Syndrome (Corticosteroid-Responsive Group).

| No. | Age     | Sex | Wt.<br>(kg) | Bl. Pressure<br>Syst. Diast. | Hb<br>(gm%) | WBCs<br>(/mm <sup>3</sup> ) | Urea<br>(mg%) | Creatinine<br>(mg%) |
|-----|---------|-----|-------------|------------------------------|-------------|-----------------------------|---------------|---------------------|
| 1   | 4 years | M   | 14          | 85 55                        | 10.9        | 8.000                       | 42            | 0.6                 |
| 2   | 4 "     | M   | 15          | 80 60                        | 13.3        | 11.600                      | 28            | 0.6                 |
| 3   | 10 "    | M   | 25          | 90 65                        | 11.5        | 8.300                       | 37            | 0.4                 |
| 4   | 6 "     | F   | 18          | 95 60                        | 12.0        | 11.000                      | 50            | 0.7                 |
| 5   | 8 "     | M   | 21          | 100 70                       | 13.2        | 9.200                       | 30            | 0.6                 |
| 6   | 7 "     | F   | 19.5        | 95 60                        | 11.8        | 10.000                      | 25            | 0.5                 |
| 7   | 9 "     | F   | 20          | 105 65                       | 13.1        | 7.100                       | 20            | 0.8                 |
| 8   | 6 "     | F   | 17.5        | 95 60                        | 12.2        | 6.800                       | 30            | 0.5                 |
| 9   | 11 "    | M   | 30          | 110 70                       | 10.4        | 6.200                       | 35            | 0.6                 |
| 10  | 6 "     | M   | 17          | 90 65                        | 11.6        | 8.500                       | 45            | 0.5                 |
| 11  | 2 "     | F   | 10.5        | 75 60                        | 10.8        | 9.000                       | 30            | 0.4                 |

M = Male

F = Female

Table (2): Clinical Data and Routine Investigations of Patients with Corticosteroid-Resistant Nephrotic Syndrome.

| No. | Age     | Sex | Wt. (kg) | Bl. Pressure Syst. | Bl. Pressure Diast. | Hb (gm%) | WBCs (/mm <sup>3</sup> ) | Urea (mg%) | Creatinine (mg%) | Hist. Diagnosis    |
|-----|---------|-----|----------|--------------------|---------------------|----------|--------------------------|------------|------------------|--------------------|
| 1   | 6 years | M   | 17       | 110                | 65                  | 10.8     | 9.100                    | 30         | 0.5              | Glomerulosclerosis |
| 2   | 11 "    | F   | 32       | 115                | 85                  | 11.5     | 8.500                    | 35         | 0.7              | "                  |
| 3   | 4 "     | M   | 14.5     | 100                | 65                  | 13.2     | 7.650                    | 50         | 0.8              | "                  |
| 4   | 5 "     | F   | 16       | 105                | 60                  | 10.9     | 6.300                    | 35         | 0.4              | "                  |
| 5   | 8 "     | M   | 23.5     | 110                | 80                  | 12.5     | 10.100                   | 40         | 0.9              | "                  |
| 6   | 8 "     | F   | 24       | 110                | 70                  | 11.4     | 8.300                    | 37         | 0.5              | "                  |
| 7   | 12 "    | M   | 30       | 120                | 80                  | 11.8     | 9.400                    | 34         | 0.6              | "                  |
| 8   | 9 "     | F   | 26       | 110                | 75                  | 12.6     | 6.750                    | 46         | 0.7              | "                  |
| 9   | 7 "     | M   | 19       | 95                 | 70                  | 10.6     | 12.000                   | 35         | 0.9              | "                  |

M = Male      F = Female.

Table (3): Clinical Data and Routine Investigation of Patients with Nephrotic Syndrome in Remission.

| No. | Age     | Sex | Wt.<br>(kg) | Bl. Pressure<br>Syst. Diast. | Hb<br>(gm%) | WBCs<br>(/mm <sup>3</sup> ) | Urea<br>(mg%) | Creatinine<br>(mg%) |
|-----|---------|-----|-------------|------------------------------|-------------|-----------------------------|---------------|---------------------|
| 1   | 6 years | M   | 16          | 85 60                        | 10.5        | 7.000                       | 20            | 0.5                 |
| 2   | 5 "     | F   | 25          | 95 65                        | 12.1        | 6.652                       | 48            | 0.9                 |
| 3   | 4 "     | M   | 15.5        | 80 55                        | 11.6        | 8.493                       | 40            | 0.8                 |
| 4   | 10 "    | M   | 30          | 105 70                       | 13.2        | 4.800                       | 25            | 0.6                 |
| 5   | 6 "     | F   | 15          | 90 36                        | 12.5        | 8.000                       | 36            | 0.7                 |
| 6   | 7 "     | M   | 18          | 60 40                        | 13.0        | 5.000                       | 40            | 0.8                 |
| 7   | 8 "     | M   | 25.5        | 65 36                        | 10.6        | 12.000                      | 36            | 0.5                 |
| 8   | 11 "    | M   | 31.5        | 70 28                        | 13.3        | 5.800                       | 28            | 0.8                 |
| 9   | 6 "     | F   | 18          | 65 30                        | 11.5        | 12.600                      | 30            | 0.9                 |
| 10  | 6 "     | F   | 20          | 65 35                        | 13.7        | 7.450                       | 35            | 0.4                 |
| 11  | 5 "     | M   | 15          | 55 38                        | 11.4        | 11.000                      | 38            | 0.4                 |
| 12  | 4 "     | F   | 14          | 60 50                        | 12.9        | 6.500                       | 50            | 0.6                 |

M = Male

F = Female

Table (4): Clinical Data and Routine Investigations of Normal Children.

| No. | Age      | Sex | Wt.<br>(kg) | Bl. Pressure<br>Syst. Diast. | Hb<br>(gm%) | WBCs<br>(/mm <sup>3</sup> ) | Urea<br>(mg%) | Creatinine<br>(mg%) |
|-----|----------|-----|-------------|------------------------------|-------------|-----------------------------|---------------|---------------------|
| 1   | 10 years | M   | 25.5        | 105 65                       | 14.5        | 5.200                       | 40            | 0.8                 |
| 2   | 8 "      | M   | 23          | 100 55                       | 13.1        | 6.500                       | 48            | 0.7                 |
| 3   | 11 "     | F   | 30          | 110 70                       | 12.0        | 5.600                       | 30            | 0.6                 |
| 4   | 12 "     | M   | 31.5        | 110 65                       | 13.8        | 8.000                       | 35            | 0.4                 |
| 5   | 6 "      | F   | 19.5        | 95 65                        | 11.6        | 10.000                      | 20            | 0.8                 |
| 6   | 6 "      | F   | 18          | 85 55                        | 12.5        | 8.300                       | 25            | 0.7                 |
| 7   | 5 "      | F   | 18          | 85 60                        | 10.5        | 12.000                      | 38            | 0.4                 |
| 8   | 7 "      | M   | 22.5        | 110 65                       | 13.2        | 8.500                       | 45            | 0.7                 |
| 9   | 6 "      | F   | 20          | 90 60                        | 11.3        | 9.000                       | 28            | 0.6                 |
| 10  | 9 "      | M   | 26          | 90 65                        | 12.4        | 10.000                      | 40            | 0.5                 |

M = Male

F = Female

Table (5): Results of Biochemical Data done for Patients with Active Responsive Nephrotic Syndrome.

| No.   | Protein loss<br>in 24 h.<br>(gm/day) | Pl. Protein<br>(gm%) | Pl. Albumin<br>(gm%) | Cholest.<br>(mg%) | LDL<br>(mg%) | VLDL<br>(mg%) | Pl. Zinc<br>(ug%) | Hair Zinc<br>(ug/gm) |
|-------|--------------------------------------|----------------------|----------------------|-------------------|--------------|---------------|-------------------|----------------------|
| 1     | 3                                    | 4.6                  | 1.24                 | 715               | 450.00       | 103           | 36                | 50                   |
| 2     | 4                                    | 5.5                  | 1.32                 | 700               | 425.56       | 116           | 37                | 60                   |
| 3     | 3                                    | 4.7                  | 1.32                 | 650               | 413.73       | 98            | 38                | 55                   |
| 4     | 4                                    | 5.9                  | 1.41                 | 630               | 400.20       | 110           | 38                | 70                   |
| 5     | 2.5                                  | 6.2                  | 1.90                 | 606               | 363.00       | 92            | 40                | 88                   |
| 6     | 2.8                                  | 6.5                  | 2.20                 | 504               | 284.56       | 65            | 48                | 81                   |
| 7     | 3.8                                  | 5.8                  | 2.00                 | 530               | 294.00       | 52            | 46                | 73                   |
| 8     | 1.5                                  | 6.4                  | 2.00                 | 550               | 300.06       | 62            | 45                | 65                   |
| 9     | 3.5                                  | 6                    | 2.34                 | 250               | 160.26       | 40            | 50                | 90                   |
| 10    | 3                                    | 6                    | 1.72                 | 610               | 372.58       | 43            | 39                | 68                   |
| 11    | 3.2                                  | 6                    | 2.15                 | 536               | 290.98       | 36            | 46                | 75                   |
| Mean  | 3.118                                | 5.781                | 1.781                | 571.000           | 341.357      | 74.272        | 42.090            | 70.454               |
| St.D. | 0.729                                | 0.622                | 0.339                | 126.776           | 84.584       | 30.116        | 4.969             | 12.770               |

Table (6): Results of Biochemical Data done for Patients with Resistant Nephrotic Syndrome.

| No.   | Protein loss<br>in 24 h.<br>(gm/day) | Pl. Protein<br>(gm%) | Pl. Albumin<br>(gm%) | Cholest.<br>(mg%) | LDL<br>(mg%) | VLDL<br>(mg%) | Pl. Zinc<br>(ug%) | Hair Zinc<br>(ug/gm) |
|-------|--------------------------------------|----------------------|----------------------|-------------------|--------------|---------------|-------------------|----------------------|
| 1     | 2.4                                  | 4.3                  | 1.50                 | 628               | 410.26       | 65            | 45                | 80                   |
| 2     | 2.5                                  | 4.7                  | 1.53                 | 532               | 300.05       | 51            | 46                | 92                   |
| 3     | 3.9                                  | 4.2                  | 1.51                 | 611               | 392.10       | 63            | 46                | 92                   |
| 4     | 5.2                                  | 4.6                  | 1.42                 | 690               | 412.56       | 80            | 39                | 70                   |
| 5     | 4.5                                  | 3.8                  | 1.24                 | 766               | 464.02       | 116           | 32                | 48                   |
| 6     | 8.18                                 | 3.8                  | 1.20                 | 800               | 480.44       | 120           | 30                | 48                   |
| 7     | 6                                    | 3.9                  | 1.38                 | 710               | 420.35       | 97            | 38                | 72                   |
| 8     | 3.2                                  | 4.1                  | 1.33                 | 760               | 460.82       | 107           | 34                | 56                   |
| 9     | 6.2                                  | 3.9                  | 1.33                 | 750               | 460.00       | 102           | 37                | 66                   |
| Mean  | 4.675                                | 4.144                | 1.382                | 694.111           | 422.288      | 89.000        | 38.555            | 69.333               |
| St.D. | 1.915                                | 0.335                | 0.118                | 87.801            | 54.916       | 25.059        | 6.043             | 16.763               |

Table (7): Results of Biochemical Data done for Patients with Nephrotic Syndrome in Remission.

| No.   | Protein loss<br>in 24 h.<br>(gm/day) | Pl. Protein<br>(gm%) | Pl. Albumin<br>(gm%) | Cholest.<br>(mg%) | LDL<br>(mg%) | VLDL<br>(mg%) | Pl. Zinc<br>(ug%) | Hair Zinc<br>(ug/gm) |
|-------|--------------------------------------|----------------------|----------------------|-------------------|--------------|---------------|-------------------|----------------------|
| 1     | 0.03                                 | 7.51                 | 4.81                 | 160               | 110.48       | 15.6          | 70                | 114                  |
| 2     | 0.05                                 | 6.72                 | 4.26                 | 199               | 130.52       | 17            | 68                | 112                  |
| 3     | 0.08                                 | 6.41                 | 4.33                 | 207               | 146.20       | 13.2          | 62                | 93                   |
| 4     | 0.10                                 | 6.22                 | 4.27                 | 210               | 150.56       | 16            | 60                | 92                   |
| 5     | 0.04                                 | 7.40                 | 4.78                 | 196               | 128.84       | 15.6          | 69                | 109                  |
| 6     | 0.06                                 | 6.81                 | 4.34                 | 203               | 135.32       | 19.6          | 67                | 97                   |
| 7     | 0.12                                 | 5.82                 | 4.00                 | 215               | 152.20       | 24            | 53.5              | 80                   |
| 8     | 0.14                                 | 6.00                 | 4.15                 | 215               | 149.90       | 20            | 56                | 88                   |
| 9     | 0.07                                 | 6.61                 | 4.42                 | 200               | 136.44       | 16            | 64                | 102                  |
| 10    | 0.09                                 | 6.20                 | 4.15                 | 206               | 150.00       | 19.2          | 61                | 96                   |
| 11    | 0.05                                 | 7.00                 | 4.65                 | 168               | 110.95       | 21            | 69                | 125                  |
| 12    | 0.02                                 | 7.80                 | 4.93                 | 168               | 110.96       | 14            | 74                | 120                  |
| Mean  | 0.070                                | 6.708                | 4.424                | 195.583           | 134.364      | 17.600        | 64.458            | 102.500              |
| St.D. | 0.036                                | 0.624                | 0.298                | 19.247            | 16.302       | 3.171         | 6.118             | 13.714               |

Table (8): Results of Biochemical Data done for Normal Children.

| No.   | Protein loss<br>in 24 h.<br>(gm/day) | Pl. Protein<br>(gm%) | Pl. Albumin<br>(gm%) | Cholest.<br>(mg%) | LDL<br>(mg%) | VLDL<br>(mg%) | Pl. Zinc<br>(ug%) | Hair Zinc<br>(ug/gm) |
|-------|--------------------------------------|----------------------|----------------------|-------------------|--------------|---------------|-------------------|----------------------|
| 1     | 0.09                                 | 7.00                 | 4.62                 | 180               | 123.50       | 20            | 110               | 160                  |
| 2     | 0.10                                 | 6.77                 | 4.33                 | 166               | 110.03       | 22            | 78                | 125                  |
| 3     | 0.05                                 | 8.66                 | 5.24                 | 140               | 98.68        | 12            | 99                | 115                  |
| 4     | 0.12                                 | 7.42                 | 5.21                 | 160               | 105.44       | 17.6          | 90.5              | 135                  |
| 5     | 0.09                                 | 7.77                 | 5.35                 | 130               | 98.68        | 14            | 138               | 177.5                |
| 6     | 0.11                                 | 7.78                 | 4.92                 | 190               | 131.04       | 19.2          | 72                | 120                  |
| 7     | 0.09                                 | 6.90                 | 5.16                 | 200               | 134.08       | 19            | 100.5             | 140                  |
| 8     | 0.02                                 | 8.60                 | 5.23                 | 195               | 132.65       | 17            | 125               | 155                  |
| 9     | 0.05                                 | 8.08                 | 5.30                 | 176               | 120.20       | 13            | 150               | 190                  |
| 10    | 0.07                                 | 7.90                 | 4.51                 | 136               | 100.80       | 21.6          | 97.5              | 142                  |
| Mean  | 0.079                                | 7.688                | 4.987                | 167.300           | 115.510      | 17.540        | 106.050           | 145.950              |
| St.D. | 0.031                                | 0.666                | 0.369                | 25.298            | 14.452       | 3.518         | 25.097            | 42.355               |

Table (9): Immunological Data done for Patients with Active Responsive Nephrotic Syndrome.

| No.   | Ross.<br>% | Blast. Transf. |             |                     | Effect of |          |            |
|-------|------------|----------------|-------------|---------------------|-----------|----------|------------|
|       |            | L.<br>%        | L.+PL.<br>% | L.+PL.<br>-LP.<br>% | PL.<br>%  | LP.<br>% | Other<br>% |
| 1     | 78         | 66             | 22          | 49                  | 44        | 27       | 17         |
| 2     | 69         | 60             | 21          | 43                  | 39        | 22       | 17         |
| 3     | 72         | 61             | 25          | 47                  | 36        | 22       | 14         |
| 4     | 64         | 66             | 27          | 50                  | 39        | 23       | 16         |
| 5     | 66         | 69             | 34          | 56                  | 35        | 22       | 13         |
| 6     | 80         | 67             | 46          | 65                  | 21        | 19       | 2          |
| 7     | 75         | 68             | 44          | 61                  | 24        | 17       | 7          |
| 8     | 83         | 67             | 40          | 59                  | 27        | 19       | 8          |
| 9     | 72         | 68             | 50          | 64                  | 18        | 14       | 4          |
| 10    | 66         | 69             | 30          | 53                  | 39        | 23       | 16         |
| 11    | 68         | 62             | 42          | 58                  | 20        | 16       | 4          |
| Mean  | 72.090     | 65.727         | 34.636      | 55.000              | 31.090    | 20.363   | 10.727     |
| St.D. | 6.252      | 3.227          | 10.269      | 7.183               | 9.256     | 3.748    | 5.815      |

Ross. : Rosette Formation  
 Blast. Transf. : Blastoid Transformation  
 L. : Lymphocyte  
 PL. : Plasma  
 LP. : Lipoprotein (LDL+VLDL)  
 Other : Other plasma constituents  
 St.D. : Standard deviation

Table (10): Immunological Data done for Patients with  
Resistant Nephrotic Syndrome.

| No.   | Ross.<br>% | Blast. Transf. |             |                     | Effect of |          |            |
|-------|------------|----------------|-------------|---------------------|-----------|----------|------------|
|       |            | L.<br>%        | L.+PL.<br>% | L.+PL.<br>-LP.<br>% | PL.<br>%  | LP.<br>% | Other<br>% |
| 1     | 65         | 64             | 32          | 48                  | 32        | 16       | 16         |
| 2     | 76         | 63             | 37          | 50                  | 26        | 13       | 13         |
| 3     | 66         | 55             | 28          | 41                  | 27        | 13       | 14         |
| 4     | 70         | 60             | 28          | 44                  | 32        | 16       | 16         |
| 5     | 83         | 58             | 17          | 37                  | 41        | 20       | 21         |
| 6     | 72         | 60             | 18          | 38                  | 42        | 20       | 22         |
| 7     | 70         | 60             | 27          | 44                  | 33        | 17       | 16         |
| 8     | 68         | 65             | 26          | 45                  | 39        | 19       | 20         |
| 9     | 72         | 59             | 25          | 43                  | 34        | 18       | 16         |
| Mean  | 71.555     | 60.444         | 26.444      | 43.333              | 34.000    | 16.894   | 17.115     |
| St.D. | 5.294      | 3.126          | 6.227       | 3.480               | 5.700     | 2.671    | 3.146      |

Ross. : Rosette Formation

Blast. Transf. : Blastoid Transformation

L. : Lymphocyte

PL. : Plasma

LP. : Lipoprotein (LDL+VLDL)

Other : Other plasma constituents

St.D. : Standard deviation

Table (11): Immunological Data done for Patients with  
Nephrotic Syndrome in Remission.

| No.   | Ross.<br>% | Blast. Transf. |             |                     | Effect of |          |            |
|-------|------------|----------------|-------------|---------------------|-----------|----------|------------|
|       |            | L.<br>%        | L.+PL.<br>% | L.+PL.<br>-LP.<br>% | PL.<br>%  | LP.<br>% | Other<br>% |
| 1     | 54         | 74             | 70          | 71                  | 4         | 1        | 3          |
| 2     | 71         | 78             | 75          | 76                  | 3         | 1        | 2          |
| 3     | 58         | 78             | 74          | 76                  | 4         | 2        | 2          |
| 4     | 59         | 76             | 70          | 72                  | 6         | 2        | 4          |
| 5     | 60         | 76             | 73          | 74                  | 3         | 1        | 2          |
| 6     | 65         | 76             | 72          | 70                  | 4         | -2       | 6          |
| 7     | 68         | 72             | 64          | 67                  | 8         | 3        | 5          |
| 8     | 60         | 79             | 71          | 74                  | 8         | 3        | 5          |
| 9     | 72         | 77             | 73          | 71                  | 4         | -2       | 6          |
| 10    | 57         | 80             | 75          | 77                  | 5         | 2        | 3          |
| 11    | 60         | 78             | 74          | 72                  | 4         | -2       | 6          |
| 12    | 59         | 77             | 73          | 74                  | 4         | 1        | 3          |
| Mean  | 61.916     | 76.750         | 72.000      | 72.833              | -4.750    | 0.833    | 3.916      |
| St.D. | 5.728      | 2.179          | 3.045       | 2.886               | 1.712     | 1.850    | 1.621      |

Ross. : Rosette Formation  
 Blast. Transf. : Blastoid Transformation  
 L. : Lymphocyte  
 PL. : Plasma  
 LP. : Lipoprotein (LDL+VLDL)  
 Other : Other plasma constituents  
 St.D. : Standard deviation

Table (12): Immunological Data done for Control Children.

| No.   | Ross.<br>% | Blast. Transf. |             |                     | Effect of |          |            |
|-------|------------|----------------|-------------|---------------------|-----------|----------|------------|
|       |            | L.<br>%        | L.+PL.<br>% | L.+PL.<br>-LP.<br>% | PL.<br>%  | LP.<br>% | Other<br>% |
| 1     | 62         | 82             | 79          | 82                  | 3         | 3        | 0          |
| 2     | 68         | 81             | 78          | 82                  | 3         | 4        | -1         |
| 3     | 70         | 82             | 76          | 81                  | 6         | 5        | 1          |
| 4     | 57         | 82             | 78          | 82                  | 4         | 4        | 0          |
| 5     | 56         | 82             | 78          | 81                  | 4         | 3        | 1          |
| 6     | 66         | 82             | 76          | 82                  | 6         | 6        | 0          |
| 7     | 56         | 81             | 74          | 82                  | 7         | 6        | 1          |
| 8     | 69         | 82             | 76          | 81                  | 6         | 5        | 1          |
| 9     | 54         | 82             | 76          | 81                  | 6         | 5        | 1          |
| 10    | 62         | 80             | 78          | 82                  | 2         | 4        | -2         |
| Mean  | 62.000     | 81.600         | 76.900      | 81.600              | 4.700     | 4.700    | 0.000      |
| St.D. | 6.018      | 0.699          | 1.523       | 0.516               | 1.702     | 1.494    | 1.054      |

Ross. : Rosette Formation  
 Blast. Transf. : Blastoid Transformation  
 L. : Lymphocyte  
 PL. : Plasma  
 LP. : Lipoprotein (LDL+VLDL)  
 Other : Other plasma constituents  
 St.D. : Standard deviation

Table (13): Descriptive Statistics of Active Responsive Group.

| Name                          | Mean    | St.D.   | Minimum | Maximum |
|-------------------------------|---------|---------|---------|---------|
| Urinary Protein Loss (gm/day) | 3.118   | 0.729   | 1.500   | 4.000   |
| Plasma Proteins (gm%)         | 5.781   | 0.622   | 4.600   | 6.500   |
| Plasma Albumin (gm%)          | 1.781   | 0.399   | 1.240   | 2.340   |
| Serum Cholesterol (mg%)       | 571.000 | 126.776 | 250.000 | 715.000 |
| Serum LDL (mg%)               | 341.357 | 84.584  | 160.260 | 450.000 |
| Serum VLDL (mg%)              | 74.272  | 30.116  | 36.000  | 116.000 |
| Plasma Zinc (ug%)             | 42.090  | 4.969   | 36.000  | 50.000  |
| Hair Zinc (ug/gm)             | 70.454  | 12.770  | 50.000  | 90.000  |
| Rosette Formation (%)         | 72.090  | 6.252   | 64.000  | 83.000  |
| (L. (%)                       | 65.727  | 3.227   | 60.000  | 69.000  |
| (                             |         |         |         |         |
| Blast. Trans. (L.+PL. (%)     | 34.636  | 10.269  | 21.000  | 50.000  |
| (                             |         |         |         |         |
| (L.+PL.-LP (%)                | 55.000  | 7.183   | 43.000  | 65.000  |
| (PL. (%)                      | 31.090  | 9.256   | 18.000  | 44.000  |
| (                             |         |         |         |         |
| Effect of (LP. (%)            | 20.363  | 3.748   | 14.000  | 27.000  |
| (                             |         |         |         |         |
| (Other (%)                    | 10.727  | 5.815   | 2.000   | 17.000  |

Table (14): Descriptive Statistics of Resistant Group.

| Name                          | Mean    | St.D.  | Minimum | Maximum |
|-------------------------------|---------|--------|---------|---------|
| Urinary Protein Loss (gm/day) | 4.675   | 1.915  | 2.400   | 8.180   |
| Plasma Protein (gm%)          | 4.144   | 0.335  | 3.800   | 4.700   |
| Plasma Albumin (gm%)          | 1.382   | 0.118  | 1.200   | 1.530   |
| Serum Cholesterol (mg%)       | 694.111 | 87.801 | 532.000 | 800.000 |
| Serum LDL (mg%)               | 422.288 | 54.916 | 300.050 | 480.440 |
| Serum VLDL (mg%)              | 89.000  | 25.059 | 51.000  | 120.000 |
| Plasma Zinc (ug%)             | 38.555  | 6.043  | 30.000  | 46.000  |
| Hair Zinc (ug/gm)             | 69.333  | 16.763 | 48.000  | 92.000  |
| Rosette Formation (%)         | 71.555  | 5.294  | 65.000  | 83.000  |
| (L. (%)                       | 60.444  | 3.126  | 55.000  | 65.000  |
| (L.+PL. (%)                   | 26.444  | 6.227  | 17.000  | 37.000  |
| (L.+PL.-LP (%)                | 43.440  | 3.480  | 37.000  | 50.000  |
| (PL. (%)                      | 34.000  | 5.700  | 26.000  | 42.000  |
| (LP. (%)                      | 16.984  | 2.671  | 13.000  | 20.000  |
| (Others(%)                    | 17.115  | 3.146  | 13.000  | 22.000  |

Table (15): Descriptive Statistics of Remission Group.

| Name                          | Mean    | St.D.  | Minimum | Maximum |
|-------------------------------|---------|--------|---------|---------|
| Urinary Protein Loss (gm/day) | 0.070   | 0.036  | 0.020   | 0.140   |
| Plasma Proteins (gm%)         | 6.708   | 0.624  | 5.820   | 7.800   |
| Plasma Albumin (gm%)          | 4.424   | 0.298  | 4.000   | 4.930   |
| Serum Cholesterol (mg%)       | 195.583 | 19.247 | 160.000 | 215.000 |
| Serum LDL (mg%)               | 134.364 | 16.302 | 110.480 | 152.200 |
| Serum VLDL (mg%)              | 17.600  | 3.171  | 13.200  | 24.000  |
| Plasma Zinc (ug%)             | 64.458  | 6.116  | 53.500  | 74.000  |
| Hair Zinc (ug/gm)             | 102.500 | 13.714 | 80.000  | 125.000 |
| Rosette Formation (%)         | 61.916  | 5.728  | 54.000  | 72.000  |
| (L. (%)                       | 76.750  | 2.179  | 72.000  | 80.000  |
| (                             |         |        |         |         |
| Blast. Trans. (L.+PL. (%)     | 72.000  | 3.045  | 64.000  | 75.000  |
| (                             |         |        |         |         |
| (L.+PL.-LP (%)                | 72.833  | 2.886  | 67.000  | 77.000  |
| (PL. (%)                      | 4.750   | 1.712  | 3.000   | 8.000   |
| (                             |         |        |         |         |
| Effect of (LP. (%)            | 0.833   | 1.850  | -2.000  | 3.000   |
| (                             |         |        |         |         |
| (Others (%)                   | 3.916   | 1.621  | 2.000   | 6.000   |

Table (16): Descriptive Statistics of Control Group.

| Name                          | Mean    | St.D.  | Minimum | Maximum |
|-------------------------------|---------|--------|---------|---------|
| Urinary Protein Less (gm/day) | 0.079   | 0.031  | 0.020   | 0.120   |
| Plasma Proteins (gm%)         | 7.688   | 0.666  | 6.770   | 8.660   |
| Plasma Albumin (gm%)          | 4.987   | 0.369  | 4.330   | 5.350   |
| Serum Cholesterol (mg%)       | 167.300 | 25.298 | 130.000 | 200.000 |
| Serum LDL (mg%)               | 115.510 | 14.452 | 98.680  | 134.080 |
| Serum VLDL (mg%)              | 17.540  | 3.518  | 12.000  | 22.000  |
| Plasma Zinc (ug%)             | 106.050 | 25.097 | 72.000  | 150.000 |
| Hair Zinc (ug/gm)             | 145.950 | 42.355 | 115.000 | 190.000 |
| Rosette Formation (%)         | 62.000  | 6.018  | 54.000  | 70.000  |
| (L. (%)                       | 81.600  | 0.699  | 80.000  | 82.000  |
| Blast. Trans. { L.+PL. (%)    | 76.900  | 1.523  | 74.000  | 79.000  |
| (L.+PL.-LP (%)                | 81.600  | 0.516  | 81.000  | 82.000  |
| (PL. (%)                      | 4.700   | 1.702  | 2.000   | 7.000   |
| Effect of { LP. (%)           | 4.700   | 1.494  | 3.000   | 6.000   |
| (Others (%)                   | 0.000   | 1.054  | -2.000  | 1.000   |

Table (17): Comparison of Urinary Protein Loss in 24 hours Between Different Groups.

(Control  $0.079 \pm 0.031$  gm%)

| Group      | No. | Mean  | St.D. | Comparison to         |                      |                       |                       |
|------------|-----|-------|-------|-----------------------|----------------------|-----------------------|-----------------------|
|            |     |       |       | Responsive            | Resistant            | Remission             | Control               |
| Responsive | 11  | 3.118 | 0.729 | ---                   | t -2.496<br>P < 0.01 | t 14.489<br>P < 0.001 | t 13.138<br>P < 0.001 |
| Resistant  | 9   | 4.675 | 1.915 | t -2.496<br>P < 0.01  | -----                | -----                 | t 7.612<br>P < 0.001  |
| Remission  | 12  | 0.070 | 0.036 | t 14.489<br>P < 0.001 | -----                | -----                 | t -0.557<br>N.S.      |

N.S. = Not Significant.

Table (19): Comparison of Plasma Albumin Concentration Between Different Groups.

(Control  $4.987 \pm 0.369$  gm%).

| Group      | No. | Mean  | St.D. | Comparison to          |                     |                        |                        |
|------------|-----|-------|-------|------------------------|---------------------|------------------------|------------------------|
|            |     |       |       | Responsive             | Resistant           | Remission              | Control                |
| Responsive | 11  | 1.781 | 0.399 | ---                    | t 2.881<br>P < 0.01 | t -18.085<br>P < 0.001 | t -19.027<br>P < 0.001 |
| Resistant  | 9   | 1.382 | 0.118 | t 2.888<br>P < 0.01    | -----               |                        | t -27.911<br>P < 0.001 |
| Remission  | 12  | 4.424 | 0.298 | t -18.085<br>P < 0.001 | -----               |                        | t -3.924<br>P < 0.001  |

Table (20): Comparison of Serum Cholesterol Concentration Between Different Groups.

(Control  $197.300 \pm 25.298$  mg%).

| Group      | No. | Mean    | St.D.   | Comparison to         |                      |                       |                       |
|------------|-----|---------|---------|-----------------------|----------------------|-----------------------|-----------------------|
|            |     |         |         | Responsive            | Resistant            | Remission             | Control               |
| Responsive | 11  | 571.000 | 126.776 | ---                   | t -2.464<br>P < 0.01 | t 10.152<br>P < 0.001 | t 9.870<br>P < 0.001  |
| Resistant  | 9   | 694.111 | 87.801  | t -2.464<br>P < 0.01  | -----                |                       | t 18.204<br>P < 0.001 |
| Remission  | 12  | 195.583 | 19.247  | t 10.152<br>P < 0.001 | -----                |                       | t 2.978<br>P < 0.01   |

Table (21): Comparison of Serum LDL Concentration Between Different Groups.

(Control  $115.510 \pm 14.452$  mg%).

| Group      | No. | Mean    | St.D.  | Comparison to        |                      |                      |                       |
|------------|-----|---------|--------|----------------------|----------------------|----------------------|-----------------------|
|            |     |         |        | Responsive           | Resistant            | Remission            | Control               |
| Responsive | 11  | 341.357 | 84.584 | ---                  | t -2.469<br>P < 0.01 | t 8.327<br>P < 0.001 | t 8.314<br>P < 0.001  |
| Resistant  | 9   | 422.288 | 54.916 | t -2.469<br>P < 0.01 | -----                |                      | t 17.071<br>P < 0.001 |
| Remission  | 12  | 134.364 | 16.302 | t 8.327<br>P < 0.001 | -----                |                      | t 2.841<br>P < 0.01   |

Table (22): Comparison of Serum VLDL Concentration Between Different Groups.

(Control  $17.540 \pm 3.518$  mg%).

| Group      | No. | Mean   | St.D.  | Comparison to        |                 |                      |                      |
|------------|-----|--------|--------|----------------------|-----------------|----------------------|----------------------|
|            |     |        |        | Responsive           | Resistant       | Remission            | Control              |
| Responsive | 11  | 74.272 | 30.116 | ---                  | t 1.171<br>N.S. | t 6.493<br>P < 0.001 | t 5.906<br>P < 0.001 |
| Resistant  | 9   | 89.000 | 25.059 | t 1.71<br>N.S.       | -----           |                      | t 8.681<br>P < 0.001 |
| Remission  | 12  | 17.600 | 3.171  | t 6.493<br>P < 0.001 | -----           |                      | t 0.042<br>N.S.      |

Table (23): Comparison of Plasma Zinc Concentration Between Different Groups.

(Control  $106.050 \pm 25.097$  ug%).

| Group      | No. | Mean   | St.D. | Comparison to         |                 |                       |                       |
|------------|-----|--------|-------|-----------------------|-----------------|-----------------------|-----------------------|
|            |     |        |       | Responsive            | Resistant       | Remission             | Control               |
| Responsive | 11  | 42.090 | 4.969 | ---                   | t 1.437<br>N.S. | t -9.568<br>P < 0.001 | t -8.295<br>P < 0.001 |
| Resistant  | 9   | 38.555 | 6.043 | t 1.437<br>N.S.       | -----           |                       | t -7.844<br>P < 0.001 |
| Remission  | 12  | 64.458 | 6.118 | t -9.568<br>P < 0.001 | -----           |                       | t -5.571<br>P < 0.001 |

Table (24): Comparison of Hair Zinc Content Between Different Groups.

(Control  $145.950 \pm 42.355$  ug/gm).

| Group      | No. | Mean    | St.D.  | Comparison to         |                 |                       |                       |
|------------|-----|---------|--------|-----------------------|-----------------|-----------------------|-----------------------|
|            |     |         |        | Responsive            | Resistant       | Remission             | Control               |
| Responsive | 11  | 70.454  | 12.770 | ---                   | t 0.169<br>N.S. | t -5.783<br>P < 0.001 | t -5.648<br>P < 0.001 |
| Resistant  | 9   | 69.333  | 16.763 | t 0.169<br>N.S.       | -----           |                       | t -5.069<br>P 0.001   |
| Remission  | 12  | 102.500 | 13.714 | t -5.783<br>P < 0.001 | -----           |                       | t -3.375<br>P < 0.001 |

Table (25): Comparison of Rosette Formation Between Different Groups.  
(Control  $62.000 \pm 6.018 \%$ ).

| Group      | No. | Mean   | St.D. | Comparison to        |                 |                      |                      |
|------------|-----|--------|-------|----------------------|-----------------|----------------------|----------------------|
|            |     |        |       | Responsive           | Resistant       | Remission            | Control              |
| Responsive | 11  | 72.090 | 6.252 | ---                  | t 0.044<br>N.S. | t 4.073<br>P < 0.001 | t 3.759<br>P < 0.001 |
| Resistant  | 9   | 71.555 | 5.294 | t -0.044<br>N.S.     | -----           |                      | t 3.419<br>P < 0.001 |
| Remission  | 12  | 61.916 | 5.728 | t 4.073<br>P < 0.001 | -----           |                      | t -0.033<br>N.S.     |

Table (26): Comparison of Lymphocyte Culture Between Different Groups.

(Control  $81.000 \pm 0.699$  %).

| Group      | No. | Mean   | St.D. | Comparison to          |                      |                        |                        |
|------------|-----|--------|-------|------------------------|----------------------|------------------------|------------------------|
|            |     |        |       | Responsive             | Resistant            | Remission              | Control                |
| Responsive | 11  | 65.727 | 3.227 | ---                    | t 3.692<br>P < 0.001 | t -12.061<br>P < 0.001 | t -15.196<br>P < 0.001 |
| Resistant  | 9   | 60.444 | 3.126 | t 3.692<br>P < 0.001   | -----                |                        | t -20.885<br>P < 0.001 |
| Remission  | 12  | 76.750 | 2.179 | t -12.061<br>P < 0.001 | -----                |                        | t -6.730<br>P < 0.001  |

Table (27): Correlation Study in Active Responsive Group.

| Statistical Measure | Predictor Variable               | Dependant Variable                                    | Correlation |         | Equation of Line |           |
|---------------------|----------------------------------|-------------------------------------------------------|-------------|---------|------------------|-----------|
|                     |                                  |                                                       | r-value     | P-value | Slope            | Intercept |
| Mean<br>St.D.       | Plasma albumin<br>1.781<br>0.399 | Cholesterol<br>571.000<br>126.776                     | -0.845      | < 0.001 | -268.64          | 1049.37   |
| Mean<br>St.D.       | Plasma albumin<br>1.781<br>0.399 | LDL<br>341.357<br>84.584                              | -0.933      | < 0.001 | -197.87          | 693.81    |
| Mean<br>St.D.       | Plasma albumin<br>1.781<br>0.399 | VLDL<br>74.272<br>30.116                              | -0.829      | < 0.001 | - 62.58          | 185.76    |
| Mean<br>St.D.       | Plasma albumin<br>1.781<br>0.399 | Plasma zinc<br>42.090<br>4.960                        | 0.948       | < 0.001 | 11.79            | 21.07     |
| Mean<br>St.D.       | Plasma zinc<br>42.090<br>4.960   | Hair zinc<br>70.454<br>12.770                         | 0.697       | < 0.01  | 1.79             | -5308     |
| Mean<br>St.D.       | LDL<br>341.357<br>84.584         | Effect of LDL + VLDL<br>20.363<br>3.748               | 0.919       | < 0.001 | 0.04             | 6.70      |
| Mean<br>St.D.       | VLDL<br>74.272<br>30.116         | Effect of LDL + VLDL<br>20.363<br>3.748               | 0.733       | N.S.    | 0.09             | 13.67     |
| Mean<br>St.D.       | Plasma zinc<br>42.090<br>4.960   | Effect of other plasma substances<br>-10.727<br>5.815 | -0.968      | < 0.001 | -1.13            | 36.83     |

Table (28): Correlation Study in Resistant Group.

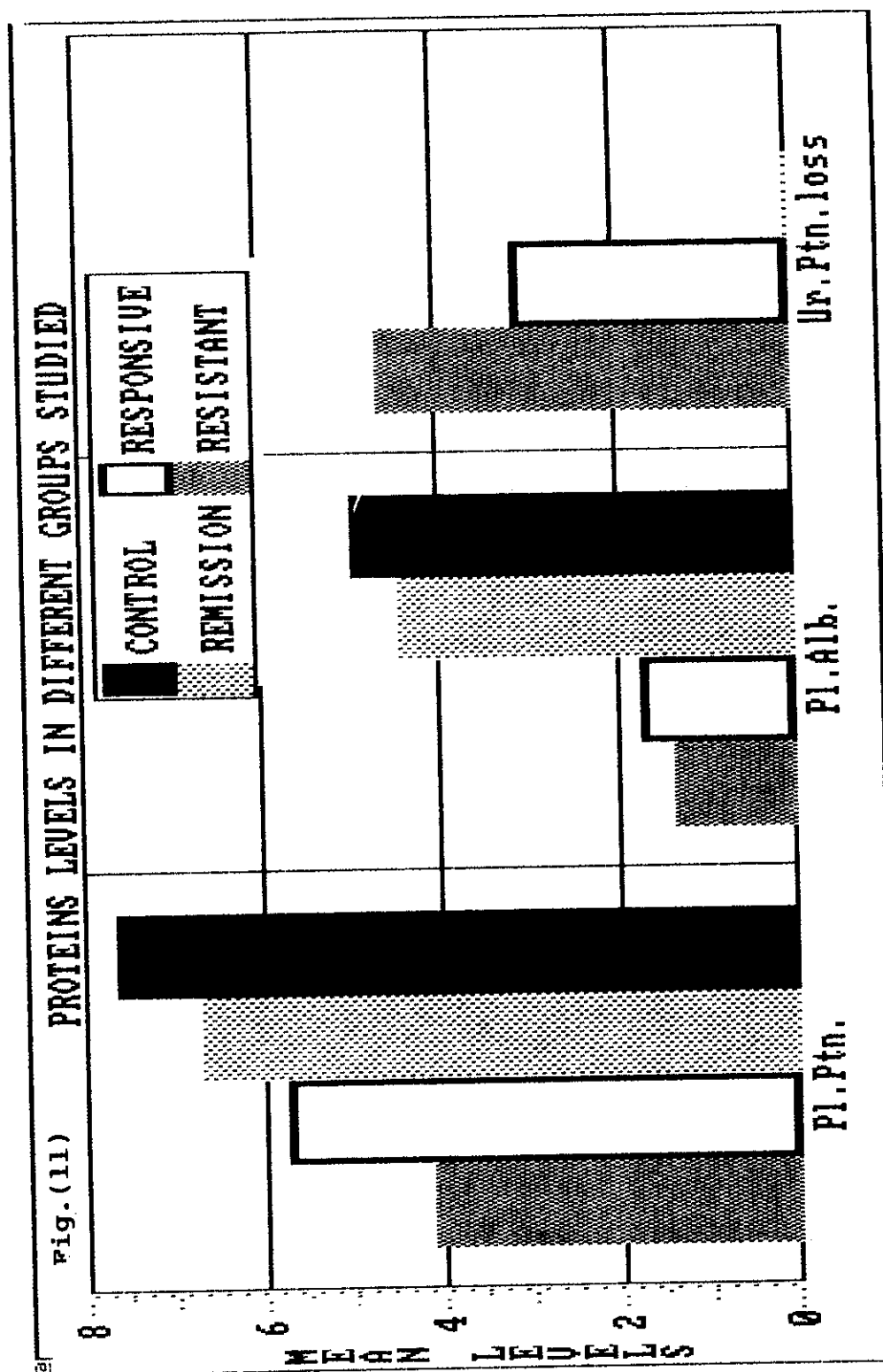
| Statistical Measure | Predictor Variable               | Dependant Variable                                    | Correlation |         | Equation of Line |           |
|---------------------|----------------------------------|-------------------------------------------------------|-------------|---------|------------------|-----------|
|                     |                                  |                                                       | r-value     | P-value | Slope            | Intercept |
| Mean<br>St.D.       | Plasma albumin<br>1.382<br>0.118 | Cholesterol<br>694.111<br>78.801                      | -0.942      | < 0.001 | -701.06          | 1662.98   |
| Mean<br>St.D.       | Plasma albumin<br>1.382<br>0.118 | LDL<br>422.288<br>54.916                              | -0.849      | < 0.001 | -395.11          | 968.33    |
| Mean<br>St.D.       | Plasma albumin<br>1.382<br>0.118 | VLDL<br>89.000<br>25.059                              | -0.861      | < 0.001 | -182.84          | 341.69    |
| Mean<br>St.D.       | Plasma albumin<br>1.382<br>0.118 | Plasma zinc<br>38.555<br>6.043                        | 0.984       | < 0.001 | 50.39            | -30.08    |
| Mean<br>St.D.       | Plasma zinc<br>38.555<br>6.043   | Hair zinc<br>69.333<br>16.763                         | 0.978       | < 0.001 | 2.71             | -35.22    |
| Mean<br>St.D.       | LDL<br>422.288<br>54.916         | Effect of LDL + VLDL<br>16.894<br>2.671               | 0.893       | < 0.001 | 0.04             | -1.42     |
| Mean<br>St.D.       | VLDL<br>89.000<br>25.059         | Effect of LDL + VLDL<br>16.894<br>2.671               | 0.958       | < 0.001 | 0.10             | 7.82      |
| Mean<br>St.D.       | Plasma zinc<br>38.555<br>6.043   | Effect of other plasma substances<br>-16.555<br>3.166 | -0.919      | < 0.001 | -0.48            | 35.52     |

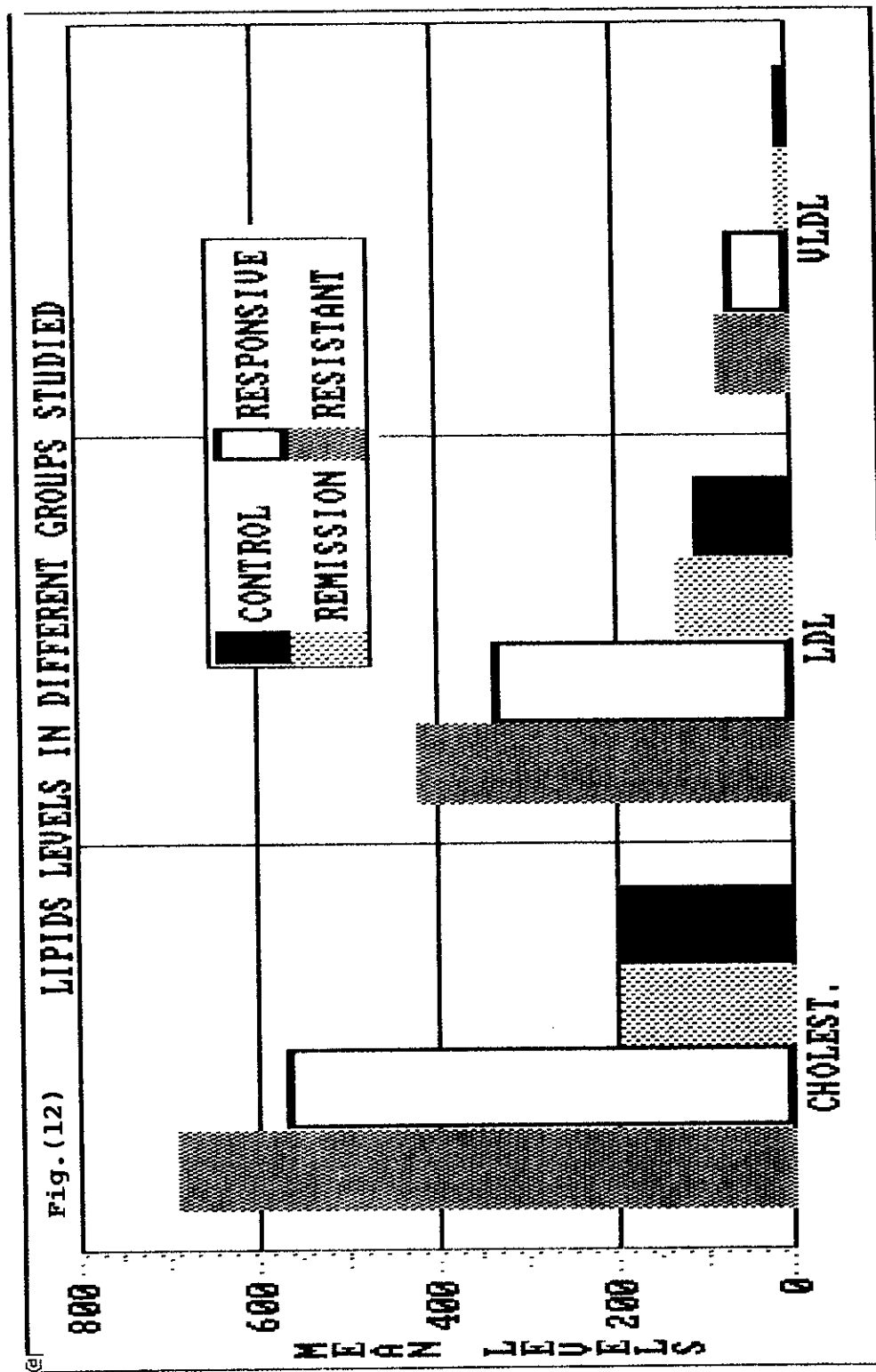
Table (29): Correlation Study in Remission Group.

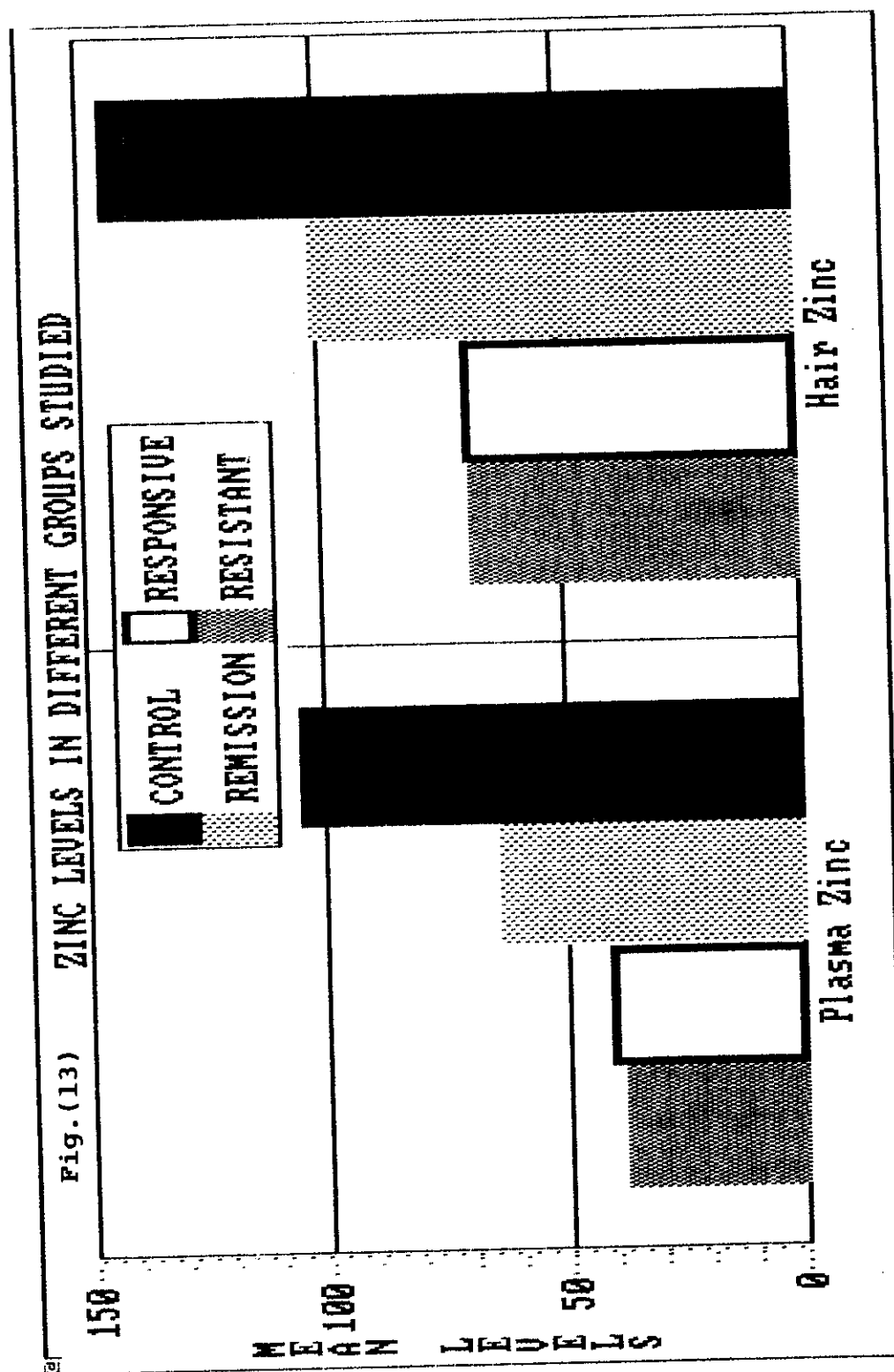
| Statistical Measure | Predictor Variable               | Dependant Variable                                   | Correlation |         | Equation of Line |           |
|---------------------|----------------------------------|------------------------------------------------------|-------------|---------|------------------|-----------|
|                     |                                  |                                                      | r-value     | P-value | Slope            | Intercept |
| Mean<br>St.D.       | Plasma albumin<br>4.424<br>0.298 | Cholesterol<br>195.583<br>19.247                     | -0.865      | < 0.001 | -55.86           | 442.73    |
| Mean<br>St.D.       | Plasma albumin<br>4.424<br>0.298 | LDL<br>134.364<br>16.302                             | -0.887      | < 0.001 | -48.55           | 349.14    |
| Mean<br>St.D.       | Plasma albumin<br>4.424<br>0.298 | VLDL<br>17.600<br>3.171                              | -0.572      | < 0.05  | -6.09            | 44.54     |
| Mean<br>St.D.       | Plasma albumin<br>4.424<br>0.298 | Plasma zinc<br>64.458<br>6.118                       | 0.878       | < 0.001 | 18.04            | -15.35    |
| Mean<br>St.D.       | Plasma zinc<br>64.458<br>6.118   | Hair zinc<br>102.500<br>13.714                       | 0.915       | < 0.001 | 2.05             | -29.70    |
| Mean<br>St.D.       | LDL<br>134.364<br>16.302         | Effect of LDL + VLDL<br>0.833<br>1.850               | 0.517       | N.S.    | 0.05             | -6.96     |
| Mean<br>St.D.       | VLDL<br>17.600<br>3.171          | Effect of LDL + VLDL<br>0.833<br>1.850               | 0.027       | N.S.    | 0.01             | 0.55      |
| Mean<br>St.D.       | Plasma zinc<br>64.458<br>6.118   | Effect of other plasma substances<br>-3.916<br>1.621 | -0.266      | N.S.    | 0.02             | 2.24      |

Table (30): Correlation Study in Control Group.

| Statistical Measure | Predictor Variable               | Dependant Variable                                  | Correlation |         | Equation of Line |           |
|---------------------|----------------------------------|-----------------------------------------------------|-------------|---------|------------------|-----------|
|                     |                                  |                                                     | r-value     | P-value | Slope            | Intercept |
| Mean<br>St.D.       | Plasma albumin<br>4.987<br>0.369 | Cholesterol<br>167.300<br>25.298                    | 0.031       | N.S.    | 2.14             | 156.60    |
| Mean<br>St.D.       | Plasma albumin<br>4.987<br>0.369 | LDL<br>115.510<br>14.452                            | 0.059       | N.S.    | 2.34             | 103.83    |
| Mean<br>St.D.       | Plasma albumin<br>4.987<br>0.368 | VLDL<br>17.540<br>3.518                             | 0.541       | N.S.    | 5.15             | -7.17     |
| Mean<br>St.D.       | Plasma albumin<br>4.987<br>0.368 | Plasma zinc<br>106.050<br>25.097                    | 0.563       | N.S.    | 38.33            | -85.14    |
| Mean<br>St.D.       | Plasma zinc<br>106.050<br>25.097 | Hair zinc<br>145.950<br>42.355                      | 0.626       | < 0.05  | 1.05             | 32.85     |
| Mean<br>St.D.       | LDL<br>115.510<br>14.452         | Effect of LDL + VLDL<br>4.700<br>1.494              | 0.623       | < 0.05  | 0.06             | -2.69     |
| Mean<br>St.D.       | VLDL<br>17.540<br>3.518          | Effect of LDL + VLDL<br>4.700<br>1.494              | 0.008       | N.S.    | 0.003            | 4.64      |
| Mean<br>St.D.       | Plasma zinc<br>106.050<br>25.097 | Effect of other plasma substances<br>0.000<br>1.054 | 0.581       | N.S.    | 0.02             | -2.54     |







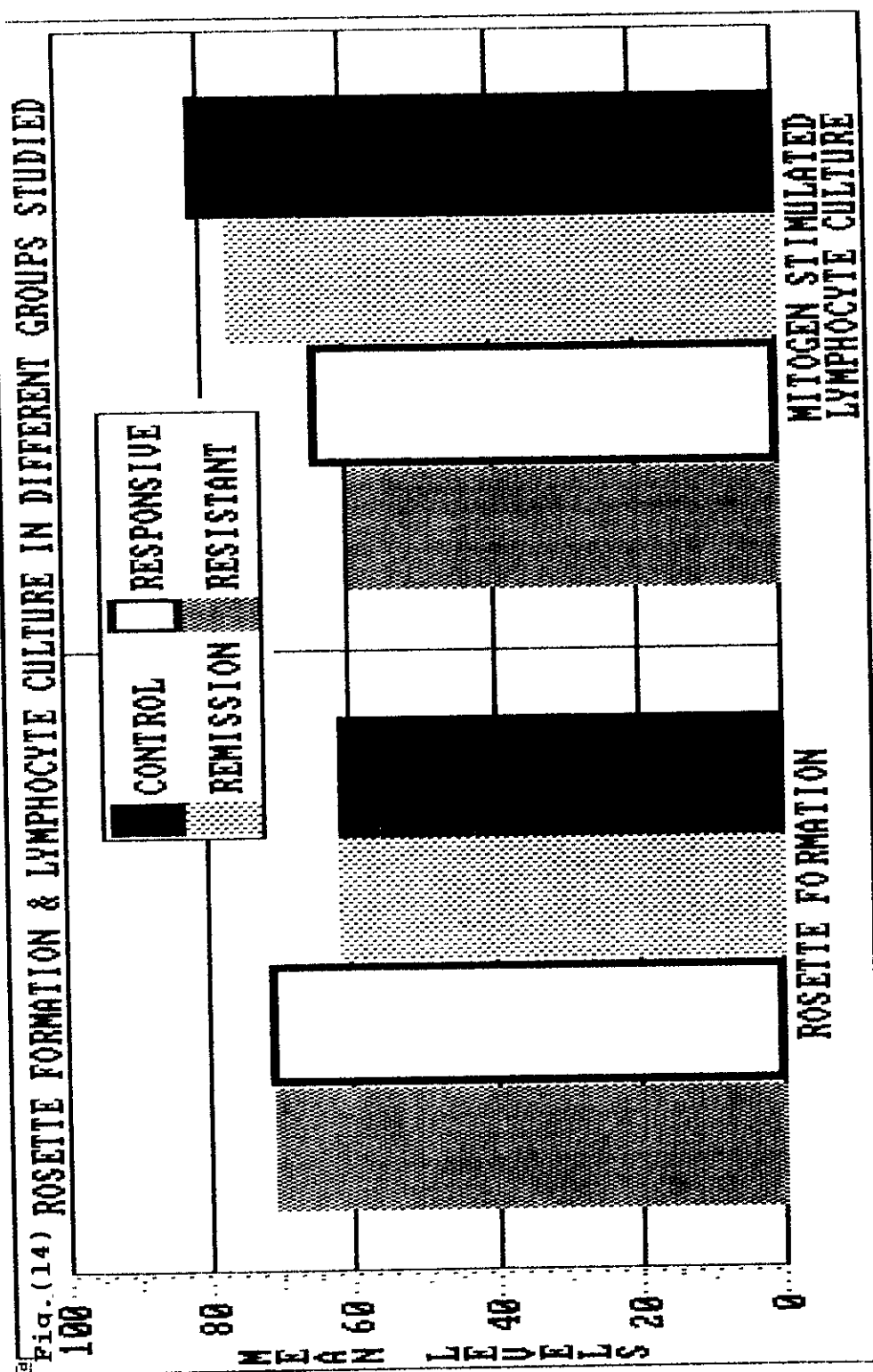


Fig. (16) CORRELATION BETWEEN SERUM LDL & LIPOPROTEIN EFFECT

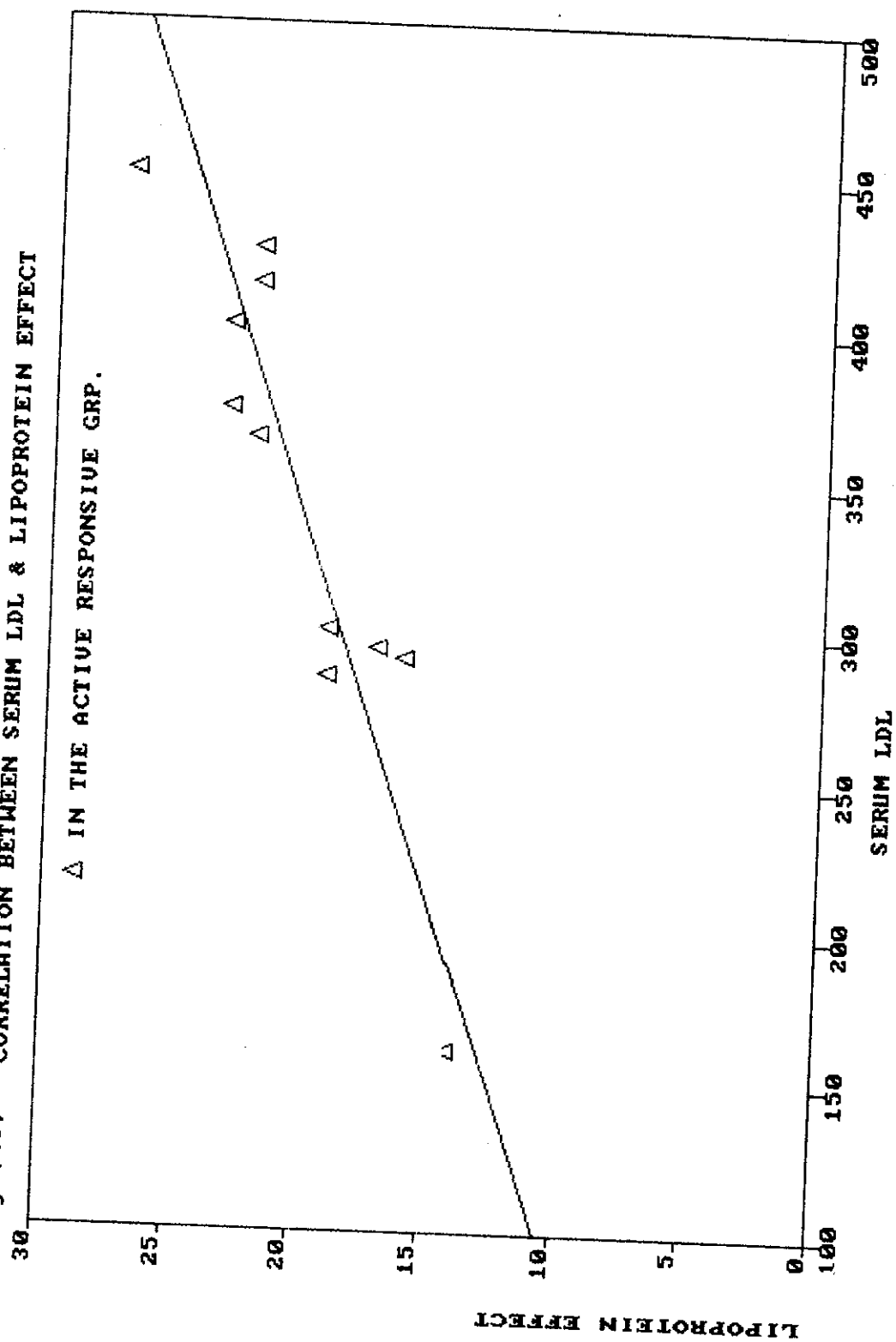


Fig.(17) CORRELATION BETWEEN SERUM ULDL & LIPOPROTEIN EF.

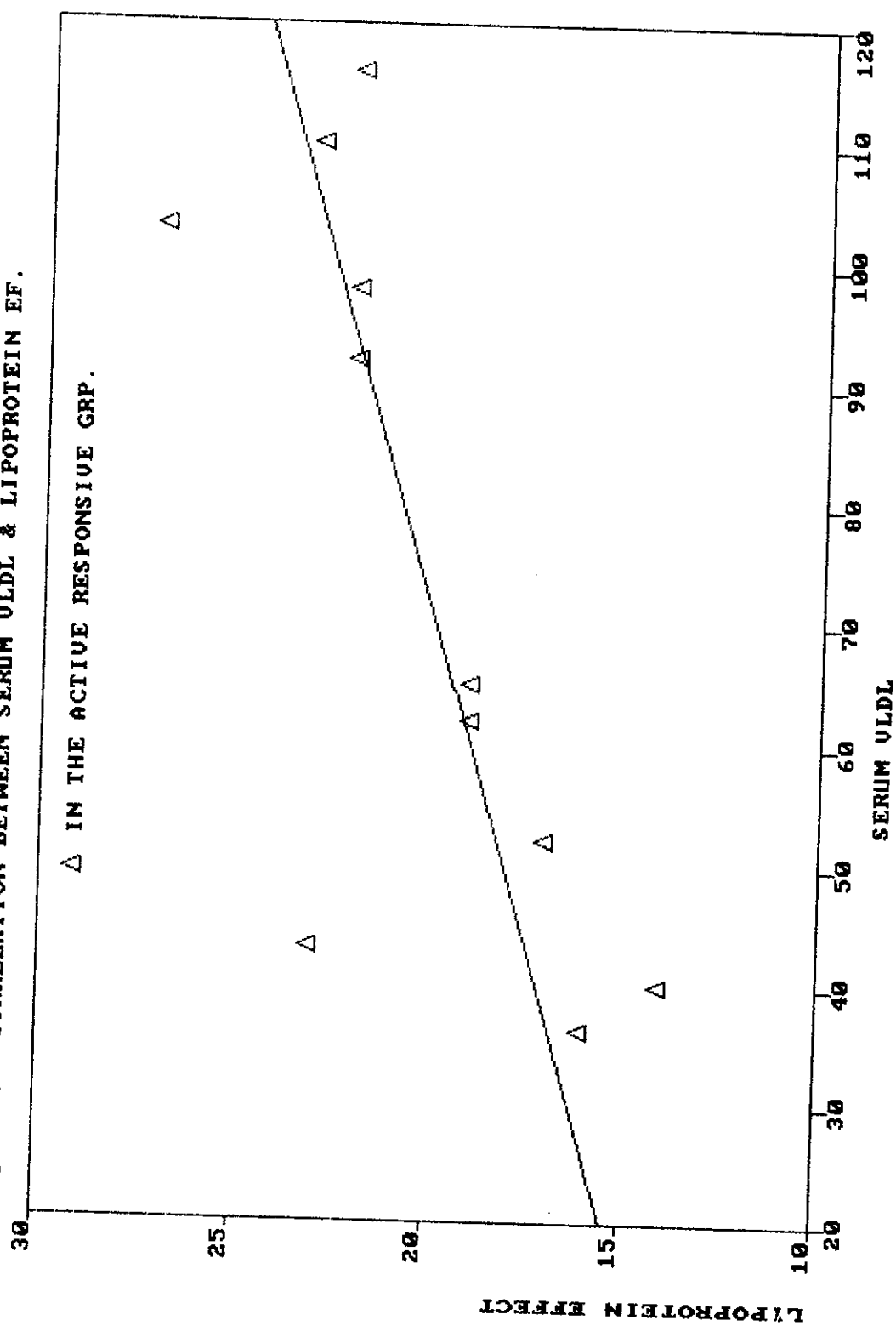


Fig.(18) CORRELATION BET. P1. ZINC & OTHER P1. SUBS. EFFECT

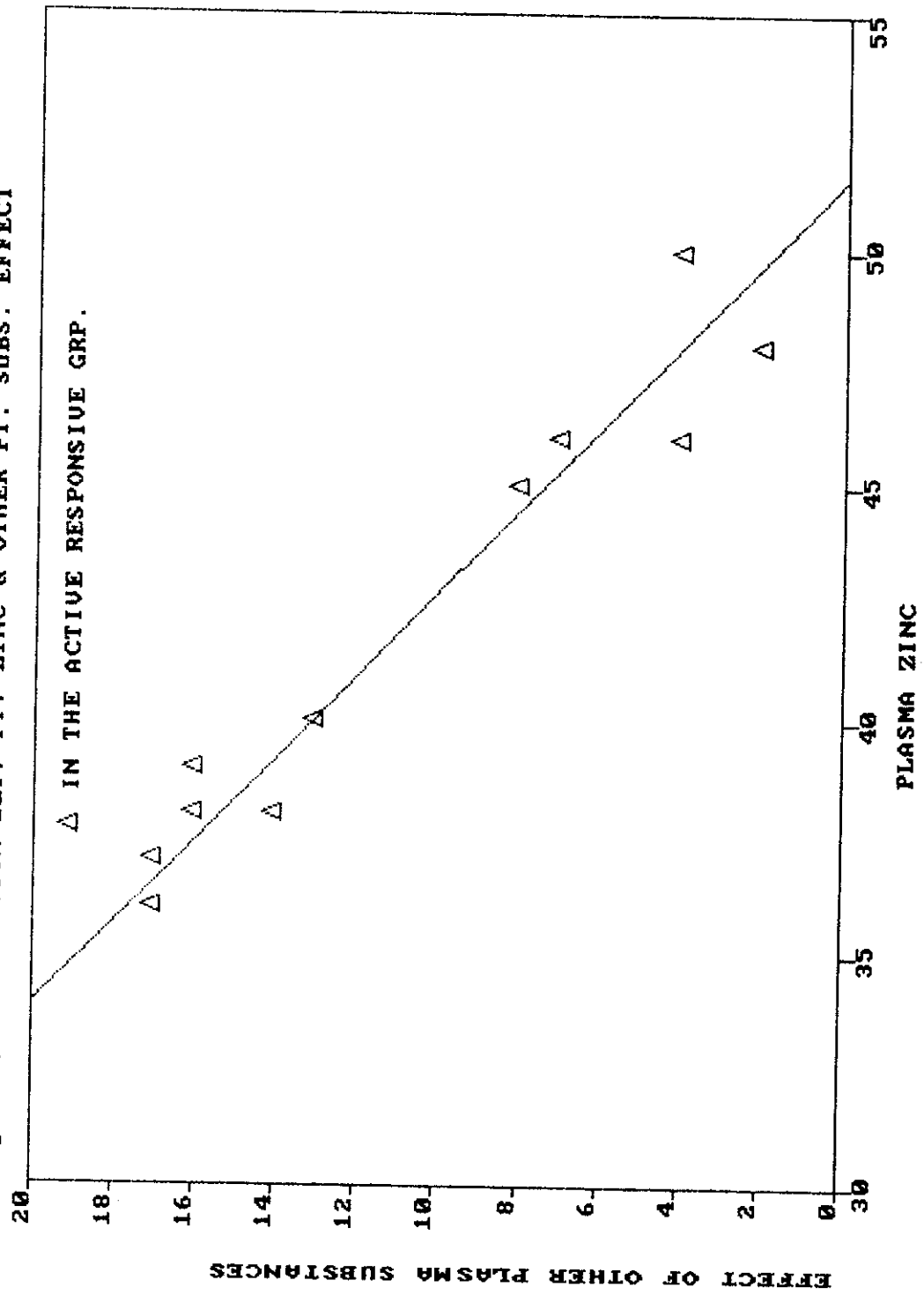


Fig. (19) CORRELATION BET. SERUM LDL &amp; LIPOPROTEIN EFFECT

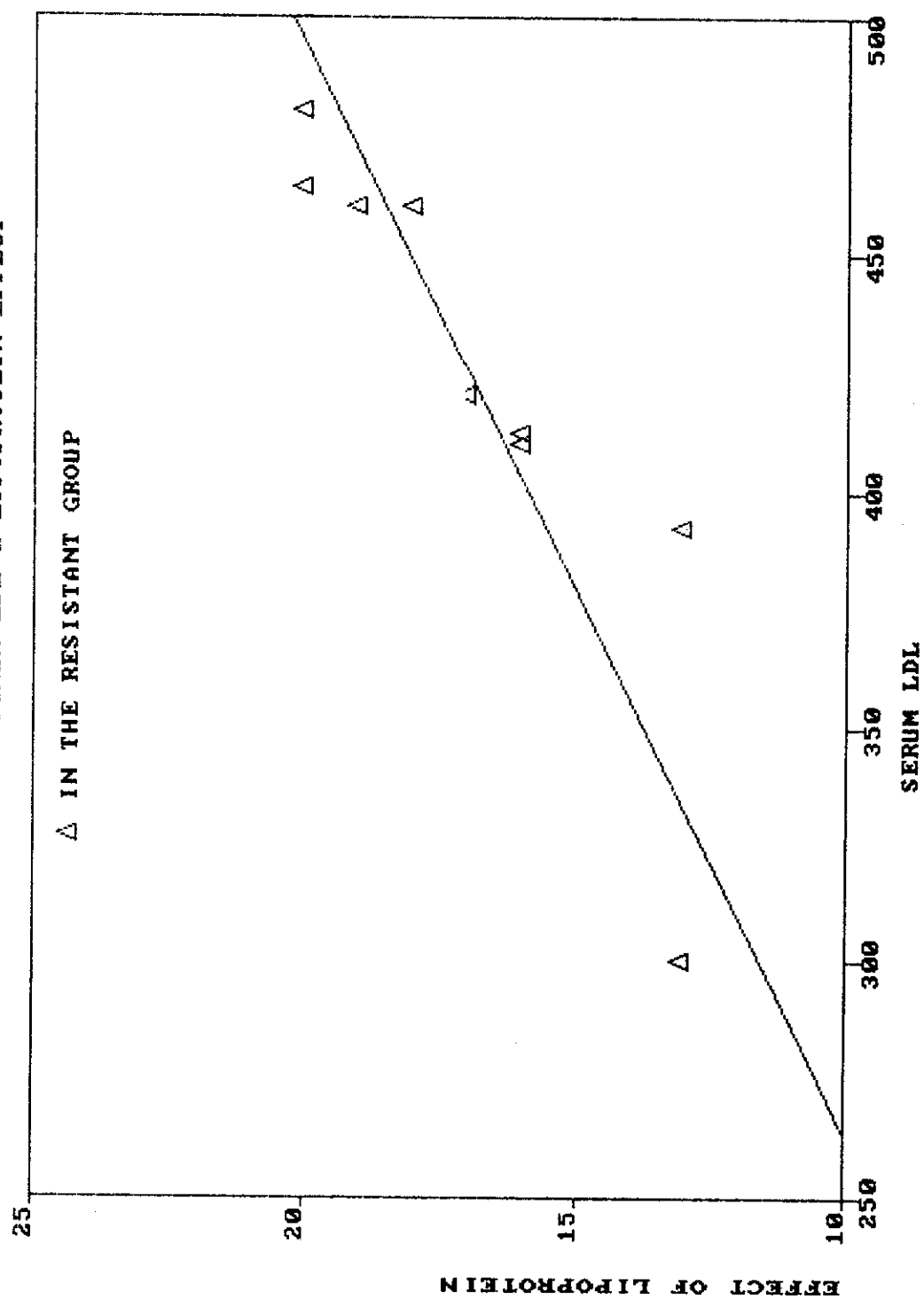


Fig. (20) CORRELATION BET. SERUM ULDL &amp; LIPOPROTEIN EFFECT

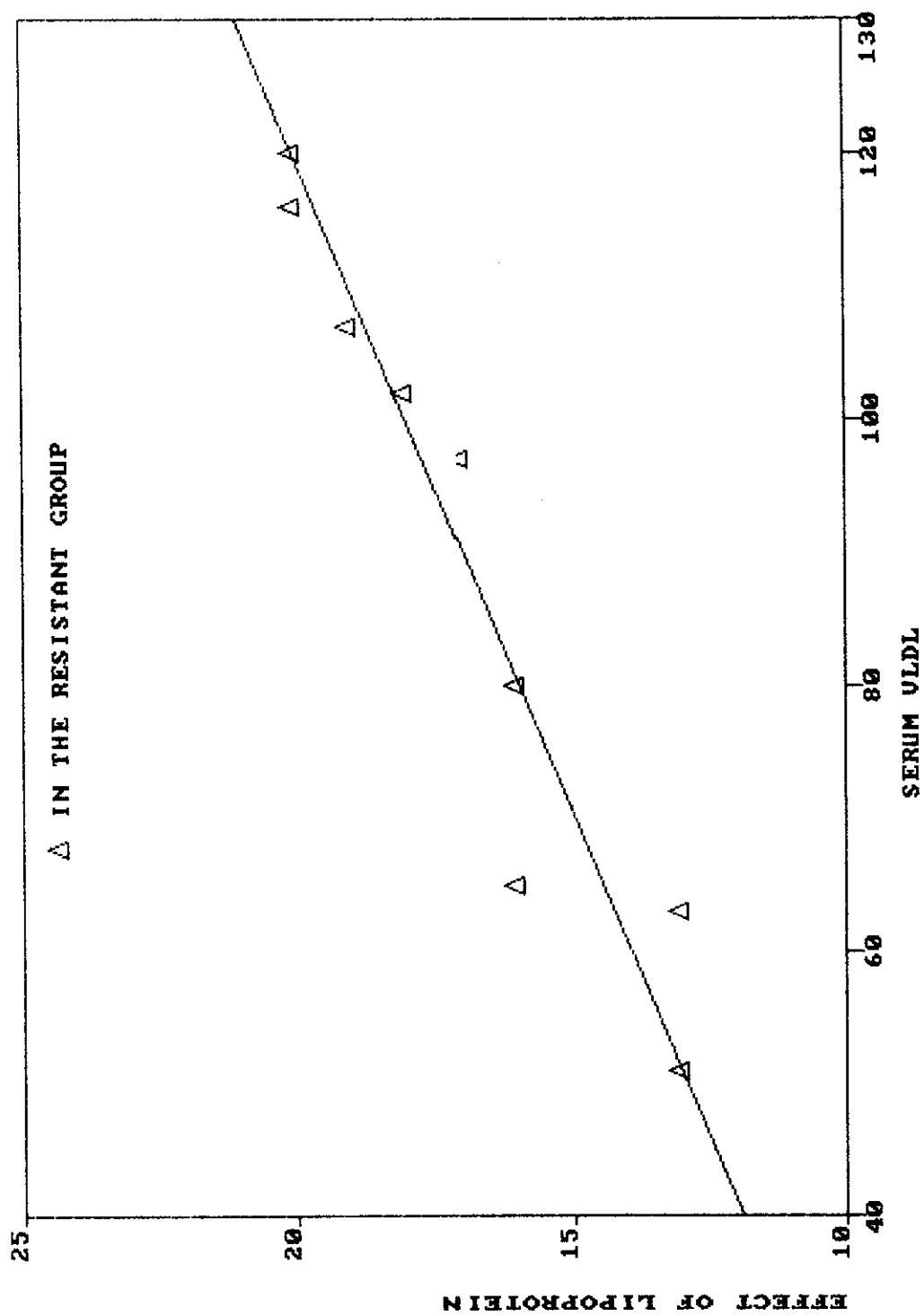


Fig. (21) CORRELATION BET. PL. ZINC & OTHER PL. SUBS. EFFECT

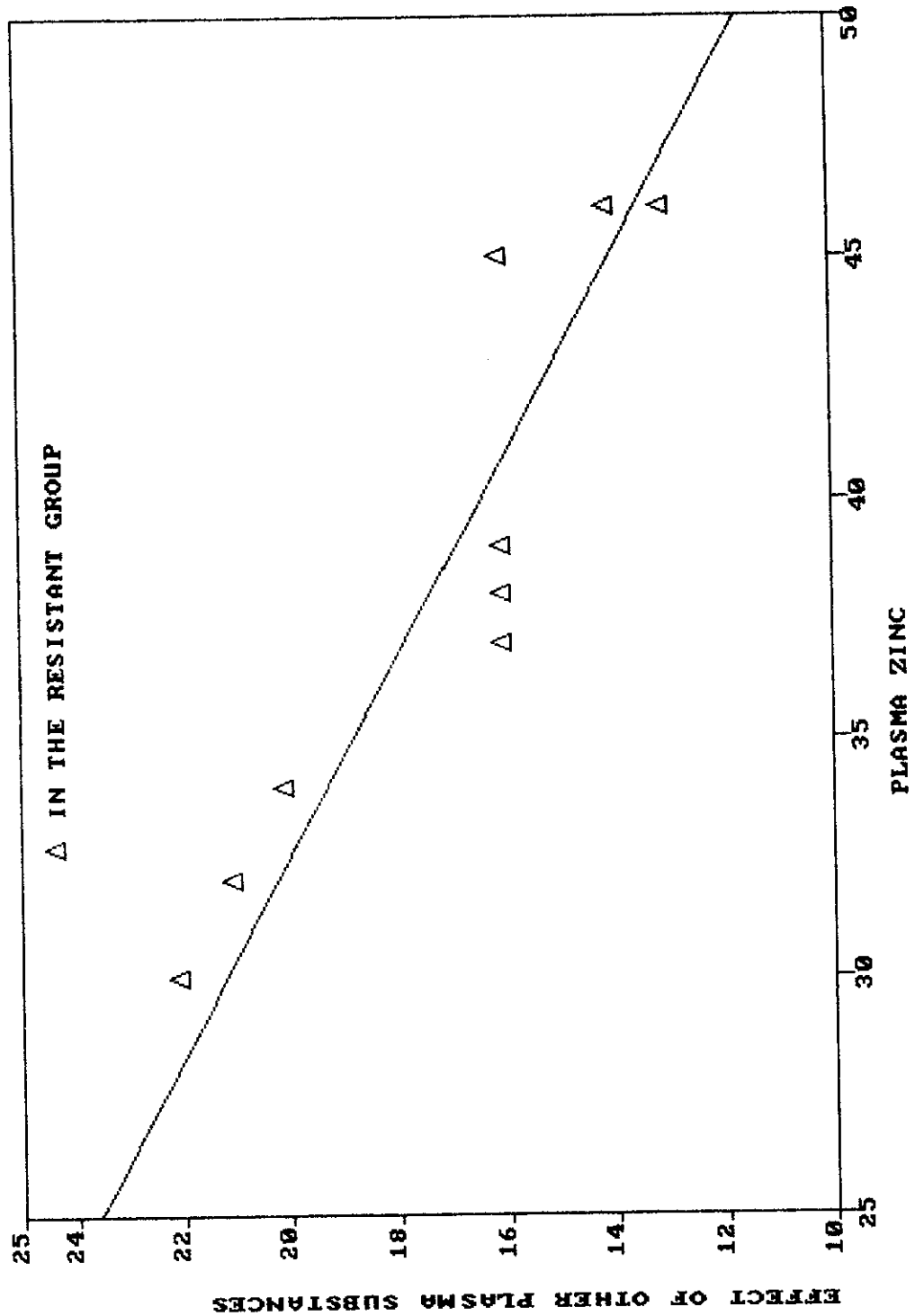


Fig. (22) CORRELATION BET. SERUM LDL &amp; LIPOPROTEIN EFFECT

