# RESULTS AND THEIR ANALYSIS

## RESULTS

The results of the different concentrations of the parameters concerned in each group were tabulated and their statistics calculated and represented in the following tables.

**Table (10) :**

It represents some biochemical values in the normal control group. The mean value of the $Na^+$ levels was 137.6 ± 1.229 mEq/L. The mean value of $K^+$ levels was 4.5 ± 0.142 mEq/L., while that of glucose was 79.26 ± 3.736 mg/dL. The mean value of the hematocrit was 30.6 ± 0.63 %, while that of the pH was 7.31 ± 0.007. The mean value of the BUN was 9.04 ± 0.8 mg/dL, while that of insulin was 11.45 ± 1.487 μU/ml & that of cortisol was 13.258 ± 1.177 μg/dL.

**Table (11)**

It represents the biochemical changes in isonatremic cases of infantile diarrhea. The mean value of $Na^+$ levels was 140.886 ± 0.451 mEq/L and the "t" was 2.512. The mean value of $K^+$levels 3.82±0.07 mEq/L and the "t" was 4.30. The mean value of

glucose levels was 76.082 ± 3.006 mg/dL and the "t" was 1.197. The mean value of the hematocrit was 35.909 ± 0.581 % & the "t"was 6.19. The mean value of the pH was 7.20 ± 0.009 and the "t" was 9.649. The mean value of BUN was 12.872 ± 1.072 mg/dL. & the "t" was 2.866. The mean value of insulin levels was 10.680 ± 1.099 µU/ml & the "t" was 0.560. The mean value of cortisol levels was 39.764 ± 3.426 µg/dL & the "t" was 7.318.

Table (12) :

It represents the biochemical changes in hypernatremic cases of infantile diarrhea. The mean value of $Na^+$ levels was 159 ± 1.117 mEq/L & the "t" was 12.89.The mean value of $K^+$ levels was 4.11 ± 0.194 mEq/L.& the "t" was 1.625. The mean value of glucose levels 105.45 ± 11.918 mg/dL, & the "t" was 2.097. The mean value of the hematocrit was 35.95 ± 1.119% & the "t" was 4.16. The mean value of the pH was 7.14 ± 0.012 & the "t" was 12.3. The mean value of the BUN was 25.3 ± 3.731 mg/dL & the"t" was 4.26. The mean value of the insulin levels was 11.959 ± 2.101 µU/ml & the "t" was 0.197. The mean value of the cortisol levels was 57.79 ± 5.974 µg/dL and the "t" was 7.314.

Table (13) :

It represents the biochemical changes in hyponatremic cases of infantile diarrhea. The mean value of $Na^+$ levels was 127.22 ± 0.444 mEq/L., and the "t" was 7.947. The mean value of $K^+$ levels was 3.39 ± 0.274 mEq/L., & the "t" was 3.59. The mean value of glucos levels was 84.45 ± 8.92 mg/dL. & the "t" was 0.53. The mean value of the hematocrit was 34.54 ± 1.296 % , & the "t" was 2.734. The mean value of the pH was 7.28 ± 0.024, & the "t" was 0.88. The mean value of BUN was 10.85 ± 2.417 mg/dL, & the "t" was 0.710. The mean value of the insulin levels was 12.12 ± 3.317 μU/ml, & the "t" was 0.184. The mean value of the cortisol levels was 33.617 ± 6.477 μg/dL., & the "t" was 3.092.

Table (14) :

It represents the biochemical changes in hyperglycemic cases of infantile diarrhea. The mean value of the $Na^+$ levels was 153.3 ± 2.929 mEq/L., & the "t" was 4.942. The mean value of the $K^+$ levels was 4.283 ± 0.248 mEq/L., & the "t" was 1.154. The

mean value of the glucose levels was 186.6 ± 9.621 mg/dL., & the "t" was 10.400. The mean value of the hematocrit was 34.83 ± 1.307 % & the "t" was 2.917. The mean value of the pH was 7.135± 0.014. & the "t" was 11.180. The mean value of the BUN was 27.88 ± 5.778 mg/dL, & the "t" was 3.229. The insulin levels in the 12 hyperglycemic cases were found to be as follows; 6 of the 12 were below the sensitivity method of the kit (< S.) which was 2 μU/ml, one of the twelve was very high & the rest were within normal range. The mean value of the cortisol levels was 90.147 ± 13.758 μg/dL, & the "t" was 5.568.

Table (15) :

It represents the biochemical changes in hypoglycemic cases of infantile diarrhea. The mean value of $Na^+$ levels was 143.06 ± 2.07 mEq/L., & the "t" was 2.26. The mean value of $K^+$ levels was 3.968 ± 0.167 mEq/L, and the "t" was 2.427. The mean value of glucose levels was 41.93 ±1.975 mg/dL., & the "t" was 8.83. The mean value of the hematocrit was 37.37± 1.161 % , & the "t" was 5.12. The mean value of the pH was 7.174± 0.023, & the "t" was 5.66. The mean value

of the BUN was 12.03 ± 1.474 mg/dL., & the "t" was 1.78. The mean value of the insulin levels was 7.93 ± 2.16 μU/ml, & the "t" was 1.342. The mean value of the cortisol levels was 42.92± 7.521 μg/dL., & the "t" was 3.896.

**Table (16) :**

It represents the correlation (r) between blood glucose levels & each one of the biochemical parameters in hypo - & hyperglycemic cases of infantile diarrhea. There was only a significant correlation between the cortisol levels & blood glucose in the hyperglycemic cases ( $P < 0.05$ ).

**Table (17) :**

It represents the biochemical changes in infantile diarrhea during hypernatremic dehydration (D) compared to that after rehydration (R) in the follow-up group. The mean value of $Na^+$ levels during dehydration was 158.8 ± 2.133 mEq/L., & the "t" was 3.760; while that mean after rehydration became 147.3 ± 2.162 mEq/L. The mean value of $K^+$ levels during dehydration was 4.5± 0.198 mEq/L., & the "t" was 0.533; while that mean after rehydration became 4.34 ± 0.225 mEq/L. The mean

value of the glucose levels during dehydration was 120.3 ± 10.402 mg/dL., & the "t" was 3.504; while that mean after rehydration became 80.5 ± 4.561 mg / dL. The mean value of the hematocrit during dehydration was 34.1± 1.353 %, & the "t" was 1.848; while that mean after rehydration became 30.0 ± 1.757 % . The mean value of the pH during dehydration was 7.17± 0.024, & the "t" was 2.710; while that mean after rehydration became 7.26 ± 0.023. The mean value of the BUN during dehydration was 16.8 ± 3.054 mg/dL & the "t" was 1.907; while that mean after rehydration became 9.52 ± 2.290 mg/dL. The mean value of the insulin levels during dehydration was 14.180 ± 2.958 µU/ml, & the "t" was 1.009; while that mean after rehydration became 10.373 ± 2.339 µU/ml. The mean value of the cortisol levels during dehydration was 64.450 ± 14.508 µg/dL., & the "t" was 1.744, while that mean after rehydration became 35.957 ± 7.496 µg/dL.

**Table (18) :**

It represents the biochemical changes in infantile diarrhea during isonatremic dehydration (D) compared to that after rehydration (R) in the follow - up group.

1 - The mean value of the $Na^+$ levels during dehydration was 143.7 ± 1.267 mEq/L., & the "t" was 0.874; while that mean after rehydration became 141.8 ± 1.766 mEq/L.

2 - The mean value of $K^+$ levels during dehydration was 4.22 ± 0.308 mEq/L., & the "t" was 0.353; while that mean after rehydration became 4.35 ± 0.201 mEq/L.

3 - The mean value of glucose levels during dehydration was 98 ± 8.753 mg/dL., & the "t" was 2.273; while that mean after rehydration was 76.14 ± 3.978 mg/dL.

4 - The mean value of the hematocrit during dehydration was 38 ± 1.732 %, & the "t" was 1.564; while that mean after rehydration became 33.7 ± 2.134 % .

5 - The mean value of the pH during dehydration was 7.23 ± 0.016, & the "t" was 5.820; while that mean after rehydration became 7.35 ± 0.013.

6 - The mean value of the BUN during dehydration was 18 ± 3.184 mg/dL, & the "t" was 3.250; while that mean after rehydration became 6.8 ± 1.316 mg/dL.

7 - The mean value of insulin levels during dehydration was 9.362 ± 2.149 µU/ml, & the "t" was 0.908; while that mean after rehydration became 12.573 ± 2.806 µU/ml.

8 - The mean value of the cortisol level during dehydration was 21.034 ± 6. 280 µg/dL, & the "t" was 0.676; while that mean after rehydration was 26.296 ± 4.589 µg/dL.

**Table (19) :-**

It represents the mean value ± S.E of the biochemical changes in all groups of infantile diarrhea compared to control group & in the follow - up group during dehydration (D) compared to that after rehydration (R).

**1- Sodium levels (Fig. 6):**

a - The mean value ± S.E. of $Na^+$ levels in the isonatremic group was 140.886 ± 0.451 mEq/L., showing a significant increase ($P<0.05$) compared to control group which was 137.6 ± 1.229 mEq/L.

The mean value ± S.E. of $Na^+$ levels in the hypernatremic group was 159 ± 1.117 mEq/L; showing a very highly significant increase (P<0.005) compared to control group.

The mean value ± S.E. of $Na^+$ levels in hyponatremic group was 127.22 ± 0.444 mEq/L., showing a very highly significant decrease (P<0.005) compared to control group.

The mean value ± S.E of $Na^+$ levels in hyperglycemic cases was 153.3 ± 2.929 mEq/L, showing a very highly significant increase (P<0.005) compared to control group.

The mean value ± S.E. of $Na^+$ levels in hypoglycemic cases was 143.06 ± 2.07 mEq/L., showing a significant increase (P<0.05) compared to control group.

b - The mean value ± S.E. of $Na^+$ levels during hypernatremic dehydration (D) in the follow - up group was 158.8 ± 2.133 mEq/L, showing a very highly

significant increase (P<0.005) compared to that after rehydration (R) which was 147.3 ± 2.162 mEq/L.

The mean value ± S.E of $Na^+$ levels during isonatremic dehydration (D) in the follow - up group was 143.7 ± 1.267 mEq/L., showing no significant change compared to that after rehydration (R) which was 141.8 ± 1.766 mEq/L.

2- Potassium levels (Fig. 7)

a - The mean value ± S.E. of $K^+$ levels in isonatremic group was 3.82 ± 0.07 mEq/L., showing a very highly significant decrease (P<0.005) compared to control group which was 4.5 ± 0.142 mEq/L.

The mean value ± S.E. of $K^+$ levels in hyponatremic group was 3.39 ± 0.274 mEq/L., showing a very highly significant decrease (P<0.005) compared to control group.

The mean value ± S.E. of $K^+$ levels in hypoglycemic cases was 3.968 ± 0.167 mEq/L., showing a significant decrease (P<0.05) compared to control group.

The mean value ± S.E. of $K^+$ levels in hypernatremic group & hyperglycemic cases were 4.11 ± 0.194 mEq/L. & 4.283 ± 0.248 mEq/L. respectively showing no significant change compared to control group.

b- The mean values ± S.E. of $K^+$ levels in hypernatremic dehydrated & isonatremic dehydrated (D) follow - up group were 4.5 ± 0.198 mEq/L., & 4.22 ± 0.308 mEq/L. respectively, showing no significant change compared to that after rehydration (R) which became 4.34 ± 0.225 mEq/L & 4.35 ± 0.201 mEq/L respectively.

3- Glucose levels (Fig. 8):

a -The mean value ± S.E. of glucose levels in hypernatremic group was 105.45 ± 11.918 mg/dL, showing a significant increase ($P<0.05$) compared to control group which was 79.26 ± 3.736 mg/dL.

The mean value ± S.E. of glucose levels in hyperglycemic cases was 186.6 ± 9.621 mg/dL, showing a very highly significant increase ($P<0.005$) compared to control group.

The mean value ± S.E. of glucose levels in hypoglycemic cases was 41.93 ± 1.975 mg/dL, showing a

very highly significant decrease ($P<0.005$) compared to control group.

The mean value $\pm$ S.E. of glucose levels in isonatremic & hyponatremic groups were 76.082 $\pm$ 3.006 mg/dL & 84.45 $\pm$ 8.92 mg/dL respectively, showing no significant change compared to control group.

b -The mean value $\pm$ S.E. of glucose levels in hypernatremic dehydrated (D) follow - up group was 120.3 $\pm$ 10.402 mg/dL, showing a very highly significant increase ($P<0.005$) compared to that after rehydration (R) which became 80.5 $\pm$ 4.561 mg/dL.

The mean value $\pm$ S.E of glucose levels in isonatremic dehydrated (D) follow - up group was 98 $\pm$ 8.753 mg/dL, showing a significant increase ($P<0.05$) compared to that after rehydration (R) which became 76.14 $\pm$ 3.978 mg/dL.

**4- Hematocrit values (Fig. 9) :**

a - The mean values $\pm$ S.E. of the hematocrit in the isonatremic, hypernatremic groups, hyperglycemic & hypoglycemic cases were 35.909 $\pm$ 0.581 %, 35.95 $\pm$

1.119 %, 34.833 ± 1.307 %, & 37.37 ± 1.161 % respectively, showing a very highly significant increase (P<0.005) compared to control group which was 30.6 ± 0.630 %.

b - The mean value ± S.E. of the hematocrit in the hypernatremic dehydrated (D) follow - up group, was 34.1 ± 1.353 % showing a significant increase (P<0.05) compared to that after rehydration which became 30.0 ± 1.757 %.

The mean value ± S.E. of the hematocrit in the isonatremic dehydrated (D), follow - up group, was 38 ± 1.732 % showing no significant change compared to that after rehydration (R) which became 33.7 ± 2.134 %.

5- The pH levels (Fig 10) :

a - The mean values ± S.E. of the pH in the iso -, hypernatremic goups, hyper -, & hypoglycemic cases were 7.20 ± 0.009, 7.14 ± 0.012, 7.135 ± 0.014, & 7.174 ± 0.023 respectively. All of them showed a very highly significant decrease (P<0.005) compared to control group which was 7.31 ± 0.007.

The mean value ± S.E. of the pH in the hyponatremic group was 7.288 ± 0.024, showing no significant change compared to control group.

b- The mean value ± S.E. of the pH in the hypernatremic dehydrated (D) follow - up group was 7.17 ± 0.024, showed a highly significant decrease (P<0.01) compared to that after rehydration (R) which was 7.26 ± 0.023, while that in the isonatremic dehydrated (D) follow - up group was 7.23 ± 0.016, showed a very highly significant decrease (P<0.005) compared to that after rehydration (R) which became 7.35 ± 0.013.

6- The BUN levels (Fig 11) :

a - The mean values ± S.E. of the BUN in the isonatremic, hypernatremic groups & hyperglycemic cases were 12.872 ± 1.072 mg/dL, 25.3 ±3.731 mg/dL. & 27.88 ± 5.778 mg/dL respectively. All of them showed a very highly significant increase (P<0.005) compared to control group which was 9.04 ± 0.8 mg/dL, while that in the hypoglycemic cases was 12.03 ± 1.474 mg/dL, showing a significant increase (P<0.05) compared to control group.

The mean value ± S.E. of BUN in the hyponatremic group was 10.85 ± 2.417 mg/dL, showing no significant change compared to control group.

b - The mean value ± S.E. of the BUN in the hypernatremic dehydrated (D) follow - up group was 16.8 ± 3.054 mg/dL, showing a significant increase ($P<0.05$) compared to that after rehydration (R) which became 9.52 ± 2.290 mg/dL. While that in the isonatremic dehydrated follow - up group was 18 ± 3.184 mg/dL, showing a highly significant increase ($P<0.01$) compared to that after rehydration (R) which became 6.8 ± 1.316 mg/dL.

## 7 - The insulin levels (Fig. 12) :

a - The mean values ± S.E of the insulin levels in the iso -, hyper -, hyponatremic groups, & hypoglycemic cases were 10.680 ± 1.099 µU/ml, 11.959 ± 2.101 µU/ml, 12.12 ± 3.317 µU/ml, & 7.930 ± 2.160 µU/ml respectively. All of them showed no significant change compared to control group which was 11.45 ± 1.487 µU/ml.

b -The mean values ± S.E of insulin levels in

hypernatremic & isonatremic dehydrated (D) follow - up group were 14.180 ± 2.958 μU/ml & 9.362 ± 2.149 μU/ml respectively showing no significant change compared to that after rehydration (R) which became 10.373 ± 2.339 μU/ml & 12.573 ± 2.806 μU/ml respectively.

8- The cortisol levels (Fig.13) :

The mean values ± S.E of cortisol levels in the iso -, hyper -, hyponatremic groups, hyper -, & hypoglycemic cases were 39.764 ± 3.426 μg/dL, 57.79 ± 5.974 μg/dL, 33.526 ± 6.52 μg/dL, 90.147 ± 13.758 μg/dL, & 42.92 ± 7.521 μg/dL. All of them showed a very highly significant increase ($P<0.005$) compared to control group which was 13.255 ± 1.177 μg/dL.

b - the mean value ± S.E. of cortisol levels in hypernatremic dehydrated (D) follow - up group was 64.450 ± 14.508 μg/dL, showing a significant increase ($P<0.05$) compared to that after rehydration (R) which became 35.957 ± 7.496 μg/dL, while that in the isonatremic dehydrated (D) follow - up group was 21.034 ± 6.280 μg/dL, showing no significant change compared to that after rehydration (R) which became 26.296 ± 4.589 μg/dL.

TABLE (10) : SOME BIOCHEMICAL VALUES IN NORMAL (CONTROL) INFANTS

| No | $Na^+$ (mEq/L.) | $K^+$ (mEq/L.) | Glucose (mg/dL) | Hematocrit ( % ) | pH | BUN (mg/dL) | Insulin ( µU/ml) | Cortisol ( µg/dL.) |
|---|---|---|---|---|---|---|---|---|
| 1 | 132 | 4.8 | 75 | 34 | 7.32 | 6.2 | 13.509 | 9.599 |
| 2 | 130 | 3.9 | 70 | 29 | 7.30 | 12.6 | 25.805 | 18.53 |
| 3 | 134 | 5.0 | 63 | 36 | 7.30 | 9.9 | 7.321 | 5.906 |
| 4 | 131 | 5.3 | 67 | 30 | 7.34 | 9.0 | 6.895 | 12.930 |
| 5 | 140 | 5.6 | 66 | 28 | 7.27 | 8.0 | 12.336 | 11.647 |
| 6 | 143.5 | 4.2 | 95 | 30 | 7.30 | 10.0 | 11.212 | 15.532 |
| 7 | 141.5 | 5.0 | 110 | 32 | 7.32 | 13.0 | 5.610 | 18.530 |
| 8 | 142 | 4.2 | 80 | 29 | 7.25 | 5.0 | 12.973 | 16.637 |
| 9 | 140 | 4.9 | 75 | 31 | 7.30 | 15.0 | 8.250 | 9.709 |
| 10 | 135 | 3.9 | 100 | 28 | 7.35 | 5.0 | 15.012 | 16.619 |
| 11 | 139 | 4.1 | 97 | 29 | 7.34 | 12.0 | 20.251 | 11.695 |
| 12 | 133 | 4.2 | 70 | 30 | 7.31 | 10.0 | 13.151 | 9.588 |
| 13 | 138 | 3.9 | 66 | 34 | 7.36 | 6.0 | 5.219 | 5.917 |
| 14 | 145 | 4.3 | 75 | 31 | 7.30 | 7.0 | 7.311 | 15.823 |
| 15 | 140 | 4.2 | 80 | 28 | 7.32 | 7.0 | 7.010 | 20.210 |
| M. | 137.6 | 4.5 | 79.26 | 30.6 | 7.31 | 9.04 | 11.45 | 13.258 |
| S.E. | ±1.229 | ±0.142 | ±3.736 | ±0.630 | ±0.007 | ±0.8 | ±1.487 | ±1.177 |

TABLE (11) : SOME BIOCHEMICAL CHANGES IN ISONATREMIC CASES OF INFANTILE DIARRHEA.

| Case No | $Na^+$ (mEq/L.) | $K^+$ (mEq/L.) | Glucose (mg/dL) | Hematocrit ( % ) | pH | BUN (mg/dL) | Insulin ( $\mu$U/mL) | Cortisol ( $\mu$g/dL.) |
|---|---|---|---|---|---|---|---|---|
| 1 | 138 | 4.4 | 73 | 52 | 7.25 | 8.8 | 238.140 | 25.706 |
| 2 | 138 | 4.2 | 73 | 40 | 7.23 | 5.0 | 6.789 | 20.778 |
| 3 | 137 | 3.2 | 115 | 33 | 7.22 | 15.0 | 3.263 | 29.883 |
| 4 | 142 | 4.3 | 130 | 33 | 7.35 | 17.7 | 4.510 | 27.753 |
| 5 | 143 | 3.3 | 129 | 33 | 7.22 | 15.5 | 20.900 | 40.157 |
| 6 | 142 | 3.8 | 120 | 34 | 7.29 | 16.0 | 7.107 | 32.253 |
| 7 | 134 | 4.0 | 85 | 31 | 7.28 | 5.0 | 43.891 | 11.788 |
| 8 | 138 | 3.7 | 85 | 32 | 7.35 | 11.0 | 16.432 | 34.956 |
| 9 | 135 | 3.5 | 118 | 40 | 7.26 | 8.8 | 6.319 | 35.436 |
| 10 | 132 | 3.2 | 100 | 28 | 7.31 | 5.0 | 10.101 | 49.346 |
| 11 | 145 | 4.1 | 105 | 41 | 7.25 | 11.6 | 4.184 | 5.177 |
| 12 | 147 | 4.2 | 195 | 32 | 7.18 | 65.0 | < S. | 82.145 |
| 13 | 145 | 3.7 | 129 | 36 | 7.12 | 8.8 | 3.203 | 23.869 |
| 14 | 140 | 4.4 | 100 | 36 | 7.23 | 12.6 | 7.106 | 21.678 |
| 15 | 136.5 | 3.6 | 65 | 39 | 7.35 | 10.5 | 8.296 | 10.399 |
| 16 | 143 | 2.3 | 60 | 40 | 7.10 | 7.5 | 24.494 | 52.532 |
| 17 | 138 | 3.5 | 58 | 38 | 7.22 | 13.0 | 5.546 | 23.545 |
| 18 | 140 | 4.0 | 68 | 39 | 7.18 | 32.0 | 4.200 | 12.709 |
| 19 | 147 | 5.0 | 105 | 42 | 6.92 | 16.5 | 6.319 | 105.246 |
| 20 | 136 | 2.7 | 75 | 38 | 7.22 | 13.0 | 5.701 | 15.459 |
| 21 | 133 | 3.9 | 75 | 36 | 7.09 | 16.5 | 33.016 | 11.581 |
| 22 | 139.5 | 3.5 | 60 | 42 | 7.19 | 9.0 | 2.598 | 4.307 |
| 23 | 140 | 4.4 | 35 | 32 | 7.31 | 5.0 | 2.878 | 7.976 |
| 24 | 138 | 2.6 | 55 | 28 | 7.32 | 5.0 | 6.050 | 11.649 |
| 25 | 142 | 3.8 | 25 | 38 | 7.07 | 10.5 | 3.328 | 25.119 |
| 26 | 149 | 3.7 | 165 | 31 | 7.18 | 36.0 | < S. | 15.953 |
| 27 | 137 | 3.2 | 53 | 40 | 7.18 | 8.5 | 18.881 | 57.847 |
| 28 | 148 | 3.9 | 65 | 37 | 7.10 | 5.0 | 7.813 | 20.778 |
| 29 | 142 | 4.7 | 27 | 41 | 7.08 | 6.0 | 7.011 | 60.099 |
| 30 | 140 | 4.1 | 65 | 35 | 7.25 | 11.0 | 6.205 | 527.487 |
| 31 | 134 | 3.0 | 40 | 30 | 7.31 | 9.6 | 6.038 | 16.957 |
| 32 | 135 | 4.2 | 70 | 22 | 7.18 | 5.0 | 4.457 | 234.099 |
| 33 | 137 | 4.3 | 117 | 38 | 7.17 | 11.9 | 5.951 | 13.248 |
| 34 | 139 | 4.6 | 63 | 41 | 7.13 | 18.0 | 3.198 | 116.914 |
| 35 | 140 | 4.1 | 70 | 28 | 7.27 | 7.2 | 72.925 | 277.288 |
| 36 | 136 | 3.6 | 66 | 30 | 7.44 | 14.0 | 18.210 | 7.228 |
| 37 | 137 | 3.6 | 80 | 27 | 7.39 | 5.5 | 5.419 | 22.287 |
| 38 | 137 | 2.9 | 100 | 42 | 7.14 | 18.0 | 12.121 | 54.674 |
| 39 | 140 | 3.0 | 45 | 35 | 7.15 | 49.0 | 29.318 | 90.497 |
| 40 | 139 | 3.9 | 45 | 42 | 7.19 | 19.8 | 5.090 | 10.984 |
| 41 | 145 | 4.4 | 92 | 36 | 7.30 | 5.0 | 6.287 | 22.617 |
| 42 | 142 | 3.9 | 73 | 30 | 7.31 | 5.0 | 4.711 | 14.013 |
| 43 | 137 | 3.7 | 80 | 32 | 7.26 | 5.0 | 9.001 | 19.141 |
| 44 | 139 | 5.0 | 100 | 28 | 7.34 | 5.4 | 16.295 | 6.149 |
| 45 | 141 | 4.4 | 76 | 30 | 7.19 | 9.7 | 3.180 | 56.545 |
| 46 | 142 | 3.8 | 49 | 38 | 7.19 | 5.4 | 6.306 | 16.953 |
| 47 | 144 | 3.1 | 66 | 37 | 7.13 | 8.0 | 5.606 | 25.433 |
| 48 | 147 | 4.6 | 70 | 40 | 7.09 | 29.0 | 7.217 | 41.633 |
| 49 | 149 | 4.2 | 65 | 42 | 7.08 | 20.0 | 16.237 | 95.136 |

TABLE (11) : SOME BIOCHEMICAL CHANGES IN ISONATREMIC CASES OF INFANTILE DIARRHEA (CONT.)

| Case No | $Na^+$ (mEq/L.) | $K^+$ (mEq/L.) | Glucose (mg/dL) | Hematocrit ( % ) | pH | BUN (mg/dL) | Insulin (μU/ml) | Cortisol (μg/dL.) |
|---|---|---|---|---|---|---|---|---|
| 50 | 142 | 2.7 | 120 | 32 | 7.20 | 7.0 | 10.081 | 30.215 |
| 51 | 136 | 2.9 | 91 | 30 | 7.13 | 17.0 | 19.144 | 64.332 |
| 52 | 145 | 2.9 | 94 | 36 | 7.05 | 39.0 | 12.359 | 39.445 |
| 53 | 144 | 4.7 | 73 | 28 | 7.18 | 22.5 | 5.129 | 21.484 |
| 54 | 139 | 4.4 | 57 | 40 | 7.23 | 12.0 | 57.471 | 34.683 |
| 55 | 137 | 3.2 | 55 | 39 | 7.11 | 8.0 | 23.089 | 13.694 |
| 56 | 147 | 3.6 | 105 | 40 | 7.18 | 29.0 | 38.440 | 45.066 |
| 57 | 141 | 3.8 | 85 | 42 | 7.23 | 20.0 | 3.282 | 66.271 |
| 58 | 134 | 3.6 | 174 | 42 | 7.17 | 12.0 | 12.445 | 46.548 |
| 59 | 134 | 3.9 | 80 | 38 | 7.33 | 5.0 | 5.218 | 18.292 |
| 60 | 137 | 3.5 | 71 | 28 | 7.24 | 5.3 | 5.153 | 8.144 |
| 61 | 144 | 2.8 | 65 | 36 | 7.10 | 11.7 | 3.284 | 64.834 |
| 62 | 142 | 2.9 | 55 | 29 | 7.28 | 5.0 | 4.244 | 27.770 |
| 63 | 137 | 3.0 | 80 | 38 | 7.21 | 5.2 | 14.767 | 42.726 |
| 64 | 149 | 5.3 | 75 | 36 | 7.17 | 15.0 | 13.737 | 45.607 |
| 65 | 142 | 5.4 | 100 | 39 | 7.10 | 8.5 | 6.219 | 40.173 |
| 66 | 140 | 3.4 | 60 | 30 | 7.31 | 5.0 | 2.998 | 6.510 |
| 67 | 141 | 3.7 | 60 | 32 | 7.29 | 5.0 | 5.950 | 27.259 |
| 68 | 141 | 3.8 | 70 | 40 | 7.18 | 7.0 | 22.109 | 106.842 |
| 69 | 144 | 4.4 | 58 | 42 | 7.09 | 12.0 | 87.720 | 102.019 |
| 70 | 144 | 3.0 | 73 | 32 | 7.19 | 5.0 | 9.815 | 25.268 |
| 71 | 141 | 4.8 | 70 | 40 | 7.16 | 14.4 | 25.324 | 102.433 |
| 72 | 138 | 4.9 | 40 | 38 | 7.13 | 23.0 | 4.763 | 72.369 |
| 73 | 144 | 3.5 | 49 | 37 | 7.08 | 13.0 | 3.001 | 27.944 |
| 74 | 143 | 4.2 | 86 | 39 | 7.15 | 15.5 | 23.037 | 60.042 |
| 75 | 148 | 3.4 | 55 | 28 | 7.13 | 7.0 | 5.050 | 21.025 |
| 76 | 150 | 4.0 | 49 | 35 | 7.18 | 13.0 | 2.908 | 90.036 |
| 77 | 142 | 4.0 | 49 | 40 | 7.13 | 7.7 | 2.019 | 30.959 |
| 78 | 139 | 4.1 | 76 | 34 | 7.29 | 5.0 | 6.603 | 24.327 |
| 79 | 140 | 2.8 | 47 | 38 | 7.20 | 14.3 | 3.112 | 149.323 |
| 80 | 146 | 4.2 | 70 | 56 | 7.22 | 11.6 | 9.312 | 22.617 |
| 81 | 138 | 3.0 | 66 | 30 | 7.33 | 8.3 | 5.171 | 26.609 |
| 82 | 138 | 4.2 | 100 | 40 | 7.11 | 29.0 | 11.297 | 111.715 |
| 83 | 141 | 5.1 | 200 | 30 | 7.22 | 7.0 | 18.320 | 31.208 |
| 84 | 140 | 4.1 | 55 | 36 | 7.19 | 5.0 | 12.090 | 39.767 |
| 85 | 143 | 4.4 | 55 | 34 | 7.15 | 5.0 | 17.032 | 37.709 |
| 86 | 146 | 4.4 | 65 | 38 | 7.27 | 8.5 | 7.538 | 15.519 |
| 87 | 148 | 3.8 | 49 | 41 | 7.08 | 14.0 | 3.542 | 21.737 |
| 88 | 148 | 3.8 | 210 | 32 | 7.18 | 14.0 | < S. | 110.911 |
| n. | 88 | 88 | 85 | 88 | 88 | 88 | 82 | 85 |
| M. | 140.886 | 3.82 | 76.082 | 35.909 | 7.20 | 12.872 | 10.680 | 39.764 |
| ± S.E | ±0.451 | ±0.07 | ±3.006 | ±0.581 | ±0.009 | ±1.072 | ±1.099 | ±3.426 |
| "t" | 2.512 | 4.30 | 1.197 | 6.19 | 9.649 | 2.866 | 0.560 | 7.318 |
| Sigc | Sig. | V.H.S. | N.S. | V.H.S. | V.H.S. | V.H.S. | N.S. | V.H.S. |

TABLE (12) : SOME BIOCHEMICAL CHANGES IN HYPERNATREMIC CASES OF INFANTILE DIARRHEA.

| Case No | $Na^+$ (mEq/L.) | $K^+$ (mEq/L.) | Glucose (mg/dL) | Hematocrit ( % ) | pH | BUN (mg/dL) | Insulin ($\mu$U/ml) | Cortisol ($\mu$g/dL.) |
|---|---|---|---|---|---|---|---|---|
| 89 | 169 | 2.3 | 155 | 32 | 7.12 | 21.0 | 177.909 | 39.186 |
| 90 | 155 | 5.5 | 151 | 38 | 7.10 | 49.6 | < S. | 109.982 |
| 91 | 158 | 2.3 | 110 | 30 | 7.25 | 8.5 | 15.086 | 99.048 |
| 92 | 159 | 5.0 | 47 | 28 | 7.15 | 15.2 | 4.320 | 34.099 |
| 93 | 167 | 4.1 | 80 | 38 | 7.11 | 21.6 | 5.822 | 26.289 |
| 94 | 161 | 3.8 | 70 | 39 | 7.21 | 20.8 | 9.218 | 62.424 |
| 95 | 156 | 4.8 | 170 | 40 | 7.07 | 16.0 | 24.648 | 85.775 |
| 96 | 152 | 4.7 | 90 | 41 | 7.23 | 7.0 | 6.299 | 22.152 |
| 97 | 160 | 4.2 | 120 | 34 | 7.10 | 26.3 | 16.166 | 85.061 |
| 98 | 162 | 3.3 | 100 | 32 | 7.19 | 17.9 | 137.977 | 68.516 |
| 99 | 162 | 4.6 | 40 | 43 | 7.13 | 19.0 | 108.675 | 74.959 |
| 100 | 155 | 4.3 | 65 | 40 | 7.10 | 11.7 | 28.144 | 56.801 |
| 101 | 165 | 5.2 | 71 | 38 | 7.10 | 40.7 | 12.101 | 97.282 |
| 102 | 153 | 4.0 | 65 | 32 | 7.18 | 7.5 | 3.220 | 20.895 |
| 103 | 163 | 3.8 | 120 | 38 | 7.14 | 36.0 | 16.268 | 53.571 |
| 104 | 151 | 2.6 | 85 | 40 | 7.10 | 68.9 | 5.382 | 94.702 |
| 105 | 166 | 4.1 | 270 | 42 | 7.06 | 55.0 | < S. | 161.101 |
| 106 | 161 | 4.6 | 210 | 34 | 7.10 | 18.0 | < S. | 130.953 |
| 107 | 154 | 3.7 | 80 | 28 | 7.23 | 5.0 | 26.529 | 66.686 |
| 108 | 161 | 4.6 | 71 | 24 | 7.25 | 18.0 | 3.029 | 17.145 |
| 109 | 158 | 3.6 | 70 | 40 | 7.10 | 52.0 | 9.108 | 126.526 |
| 110 | 151 | 5.5 | 80 | 40 | 7.19 | 21.0 | 6.012 | 35.693 |
| n. | 22 | 22 | 20 | 22 | 22 | 22 | 16 | 18 |
| M. | 159 | 4.11 | 105.45 | 35.95 | 7.14 | 25.3 | 11.959 | 57.79 |
| $\pm$ S.E. | $\pm$1.117 | $\pm$0.194 | $\pm$11.918 | $\pm$1.119 | $\pm$0.012 | $\pm$3.731 | $\pm$2.101 | $\pm$5.974 |
| "t" | 12.89 | 1.625 | 2.097 | 4.16 | 12.3 | 4.26 | 0.197 | 7.314 |
| Sig. | V.H.S. | N.S. | Sig. | V.H.S. | V.H.S. | V.H.S. | N.S. | V.H.S. |

TABLE (13) : SOME BIOCHEMICAL CHANGES IN HYPONATREMIC CASES OF INFANTILE DIARRHEA.

| Case No | $Na^+$ (mEq/L.) | $K^+$ (mEq/L.) | Glucose (mg/dL) | Hematocrit ( % ) | pH | BUN (mg/dL) | Insulin ( $\mu$U/ml) | Cortisol ( $\mu$g/dL.) |
|---|---|---|---|---|---|---|---|---|
| 111 | 129.5 | 4.0 | 134 | 32 | 7.31 | 28.0 | 3.607 | 8.707 |
| 112 | 127 | 3.3 | 90 | 34 | 7.31 | 7.0 | 95.604 | 35.548 |
| 113 | 128 | 3.4 | 90 | 36 | 7.35 | 9.6 | 10.136 | 29.623 |
| 114 | 129 | 3.7 | 110 | 38 | 7.24 | 16.0 | 3.462 | 24.313 |
| 115 | 128 | 4.3 | 35 | 30 | 7.41 | 5.0 | 25.324 | 63.106 |
| 116 | 127 | 3.2 | 118 | 36 | 7.41 | 5.0 | 4.246 | 4.284 |
| 117 | 126 | 5.3 | 53 | 40 | 7.23 | 9.4 | 2.841 | 10.984 |
| 118 | 125 | 3.0 | 70 | 26 | 7.24 | 5.9 | 27.532 | 48.035 |
| 119 | 127 | 2.5 | 74 | 40 | 7.21 | 5.0 | 7.918 | 42.294 |
| 120 | 125 | 2.3 | 95 | 36 | 7.15 | 23.0 | 8.321 | 70.521 |
| 121 | 128 | 2.3 | 60 | 32 | 7.31 | 5.5 | 27.828 | 32.374 |
| n. | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 11 |
| M. | 127.22 | 3.39 | 84.45 | 34.54 | 7.288 | 10.85 | 12.12 | 33.617 |
| $\pm$S.E. | $\pm$0.444 | $\pm$0.274 | $\pm$8.92 | $\pm$1.296 | 0.024 | $\pm$2.417 | $\pm$3.317 | $\pm$6.477 |
| "t" | 7.947 | 3.59 | 0.53 | 2.734 | 0.88 | 0.710 | 0.184 | 3.092 |
| Sig.c | V.H.S. | V.H.S. | N.S. | H.S. | N.S. | N.S. | N.S | V.H.S. |

TABLE (14) : SOME BIOCHEMICAl CHANGES IN HYPERGLYCEMIC CASES OF INFANTILE DIARRHEA.

| Case No | $Na^+$ (mEq/L.) | $K^+$ (mEq/L.) | Glucose (mg/dL) | Hematocrit ( % ) | pH | BUN (mg/dL) | Insulin ( µU/ml) | Cortisol (µg./dL.) |
|---|---|---|---|---|---|---|---|---|
| 12 | 147 | 4.2 | 195 | 32 | 7.18 | 65.0 | < S. | 82.145 |
| 26 | 149 | 3.7 | 165 | 31 | 7.18 | 36.0 | < S. | 15.953 |
| 58 | 134 | 3.6 | 174 | 42 | 7.17 | 12.0 | 12.445 | 46.548 |
| 83 | 141 | 5.1 | 200 | 30 | 7.22 | 7.0 | 18.320 | 31.208 |
| 88 | 148 | 3.8 | 210 | 32 | 7.18 | 14.0 | < S. | 110.911 |
| 89 | 169 | 2.3 | 155 | 32 | 7.12 | 21.0 | 177.909 | 39.186 |
| 90 | 155 | 5.5 | 151 | 38 | 7.10 | 49.6 | < S. | 109.982 |
| 95 | 156 | 4.8 | 170 | 40 | 7.07 | 16.0 | 24.648 | 85.775 |
| 105 | 166 | 4.1 | 270 | 42 | 7.06 | 55.0 | < S. | 161.101 |
| 106 | 161 | 4.6 | 210 | 34 | 7.10 | 18.0 | < S. | 130.953 |
| 12 F. | 160 | 4.9 | 160 | 30 | 7.09 | 5.0 | 3.212 | 139.219 |
| 14 F. | 154 | 4.8 | 180 | 35 | 7.15 | 36.0 | 19.156 | 128.794 |
| n. | 12 | 12 | 12 | 12 | 12 | 12 | | 12 |
| M. | 153.3 | 4.283 | 186.6 | 34.833 | 7.135 | 27.88 | | 90.147 |
| ±S.E. | ±2.929 | ±0.248 | ±9.621 | ±1.307 | ±0.014 | ±5.778 | | ±13.758 |
| "t" | 4.942 | 1.154 | 10 .400 | 2.917 | 11.180 | 3.229 | | 5.568 |
| Sigc | V.H.S. | N.S. | V.H.S. | V.H.S. | V.H.S. | V.H.S. | | V.H.S. |

TABLE (15) : SOME BIOCHEMICAL CHANGES IN HYPOGLYCEMIC CASES OF INFANTILE DIARRHEA.

| Case No | $Na^+$ (mEq/L.) | $K^+$ (mEq/L.) | Glucose (mg/dL) | Hematocrit ( % ) | pH | BUN (mg/dL) | Insulin ( $\mu$U/ml) | Cortisol ( $\mu$g/dL.) |
|---|---|---|---|---|---|---|---|---|
| 23 | 140 | 4.4 | 35 | 40 | 7.31 | 5.0 | 2.875 | 7.976 |
| 25 | 142 | 3.8 | 25 | 38 | 7.07 | 10.5 | 13.328 | 25.119 |
| 29 | 142 | 4.7 | 27 | 41 | 7.08 | 6.0 | 7.011 | 60.099 |
| 31 | 134 | 3.0 | 40 | 30 | 7.31 | 9.6 | 6.038 | 16.957 |
| 39 | 140 | 3.0 | 45 | 35 | 7.15 | 49.0 | 29.318 | 90.497 |
| 40 | 139 | 3.9 | 45 | 42 | 7.19 | 19.8 | 5.090 | 10.984 |
| 46 | 142 | 3.8 | 49 | 42 | 7.19 | 5.4 | 6.306 | 16.953 |
| 72 | 138 | 4.9 | 40 | 38 | 7.13 | 23.0 | 4.763 | 72.369 |
| 73 | 144 | 3.5 | 49 | 37 | 7.08 | 13.0 | 3.001 | 27.944 |
| 76 | 150 | 4.0 | 49 | 35 | 7.18 | 13.0 | 2.908 | 90.036 |
| 77 | 142 | 4.0 | 49 | 40 | 7.13 | 7.7 | 2.019 | 30.959 |
| 79 | 140 | 2.8 | 47 | 38 | 7.20 | 14.3 | 3.112 | 149.323 |
| 87 | 148 | 3.8 | 49 | 41 | 7.08 | 14.0 | 3.542 | 21.737 |
| 92 | 159 | 5.0 | 47 | 28 | 7.15 | 15.2 | 4.320 | 34.099 |
| 99 | 161 | 4.6 | 40 | 43 | 7.13 | 19.0 | 108.675 | 74.959 |
| 115 | 128 | 4.3 | 35 | 30 | 7.41 | 5.0 | 25.324 | 63.106 |
| n. | 16 | 16 | 16 | 16 | 16 | 15 | 15 | 15 |
| M. | 143.06 | 3.968 | 41.93 | 37.37 | 7.174 | 12.03 | 7.930 | 42.92 |
| $\pm$S.E. | $\pm$2.07 | $\pm$0.167 | $\pm$1.975 | $\pm$1.161 | $\pm$0.023 | $\pm$1.474 | $\pm$2.160 | $\pm$7.521 |
| "t" | 2.26 | 2.427 | 8.83 | 5.12 | 5.66 | 1.78 | 1.342 | 3.896 |
| Sig. | Sig. | Sig. | V.H.S. | V.H.S. | V.H.S. | Sig. | N.S. | V.H.S. |

TABLE (16) : CORRELATION COEFFICIENT BETWEEN BLOOD GLUCOSE LEVELS & EACH ONE OF THE BIOCHEMICAL PARAMETERS IN HYPO - & HYPERGLYCEMIC CASES OF INFANTILE DIARRHEA

| Correlation between The Group | Blood glucose & $Na^+$ | Blood glucose & $K^+$ | Blood glucose & Hematocrite | Bloold glucose & pH | Blood glucose & BUN | Blood glucose & insulin | Blood glucose & cortisol |
|---|---|---|---|---|---|---|---|
| Hypoglycemic cases | 0.276 | - 0.298 | - 0.017 | - 0.088 | - 0.284 | - 0.307 | - 0.033 |
| Hyperglycemic cases | 0.121 | 0.010 | 0.262 | - 0.106 | 0.267 | - 0.324 | 0.462* |

* Significant where $P < 0.05$

TABLE (18) : SOME BIOCHEMICAL CHANGES IN INFANTILE DIARRHEA DURING ISONATREMIC DEHYDRATION
(D) AS COMPARED TO THAT AFTER REHYDRATION (R)
"FOLLOW UP GROUP"

| Case No | $Na^+$ (mEq/L.) | | $K^+$ (mEq/L.) | | Glucose (mg/dL) | | Hematocrit ( % ) | | pH | | BUN (mg/dL) | | Insulin ( $\mu$U/ml) | | Cortisol ( $\mu$g/dL.) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | R | D | R | D | R | D | R | D | R | D | R | D | R | D | R |
| 3- | 141 | 144 | 4.0 | 4.9 | 120 | 75 | 46 | 43 | 7.21 | 7.37 | 22.0 | 4.2 | 14.609 | 20.980 | 36.699 | 44.894 |
| 4- | 147 | 144.7 | 4.9 | 5.0 | 75 | 68 | 36 | 33 | 7.26 | 7.33 | 16.0 | 11.7 | 6.110 | 13.642 | 42.535 | 25.576 |
| 5- | 140 | 139 | 3.9 | 3.8 | 90 | 70 | 40 | 38 | 7.17 | 7.39 | 20.0 | 5.0 | 12.521 | 5.112 | 20.325 | 18.251 |
| 6- | 142 | 144 | 4.5 | 4.7 | 85 | 75 | 34 | 29 | 7.29 | 7.37 | 5.0 | 4.0 | 3.598 | 6.061 | 4.248 | 10.939 |
| 9- | 142 | 147 | 3.0 | 3.7 | 86 | 65 | 32 | 27 | 7.23 | 7.28 | 19.0 | 6.0 | 15.012 | 20.189 | 11.392 | 19.971 |
| 11- | 149 | 141 | 3.8 | 4.4 | 90 | 85 | 39 | 30 | 7.27 | 7.36 | 32.0 | 12.0 | 50.287 | 18.020 | 99.870 | 40.201 |
| 16- | 145 | 133 | 5.5 | 4.0 | 140 | 95 | 39 | 36 | 7.20 | 7.37 | 12.0 | 5.0 | 4.324 | 4.011 | 11.010 | 24.243 |
| n. | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| M. | 143.7 | 141.8 | 4.22 | 4.35 | 98 | 76.14 | 38 | 33.7 | 7.23 | 7.35 | 18 | 6.8 | 9.362 | 12.573 | 21.034 | 26.296 |
| $\pm$S.E. | $\pm$1.267 | $\pm$1.766 | $\pm$0.308 | $\pm$0.201 | $\pm$8.753 | $\pm$3.978 | $\pm$1.732 | $\pm$2.134 | $\pm$0.016 | $\pm$0.013 | $\pm$3.184 | $\pm$1.316 | $\pm$2.149 | $\pm$2.806 | $\pm$6.280 | $\pm$4.589 |
| "t" | 0.874 | | 0.353 | | 2.273 | | 1.564 | | 5.820 | | 3.250 | | 0.908 | | 0.676 | |
| Sigc | N.S. | | N.S. | | Sig. | | N.S. | | V.H.S. | | H.S. | | N.S. | | N.S. | |

TABLE (19) : MEAN VALUES ± S.E OF THE BIOCHEMICAL CHANGES IN ALL GROUPS OF INFANTILE DIARRHEA COMPARED TO CONTROL GROUP & IN THE FOLLOW UP GROUP DURING DEHYDRATION (D) & AFTER REHYDRATION (R)

| | | $Na^+$ (mEq/L.) | $K^+$ (mEq/L.) | Glucose (mg/dL) | Hematocrit ( % ) | pH | BUN (mg/dL) | Insulin (μU/ml) | Cortisol (μg/dL) |
|---|---|---|---|---|---|---|---|---|---|
| Control group | | 137.6 ±1.229 | 4.5 ±0.142 | 79.26 ±3.736 | 30.6 ±0.630 | 7.31 ±0.007 | 9.04 ±0.8 | 11.45 ±1.487 | 13.255 ±1.177 |
| Isonatremic group | | $140.886^{*}$ ±0.451 | $3.82^{***}$ ±0.07 | 76.082 ±3.006 | $35.909^{***}$ ±0.581 | $7.20^{***}$ ±0.009 | $12.872^{***}$ ±1.072 | 10.680 ±1.099 | $39.764^{***}$ ±3.426 |
| Hypernatremic group | | $159^{***}$ ±1.117 | 4.11 ±0.194 | $105.45^{*}$ ±11.918 | $35.95^{***}$ ±1.119 | $7.14^{***}$ ±0.012 | $25.3^{***}$ ±3.731 | 11.959 ±2.101 | $57.79^{***}$ ±5.974 |
| Hyponatremic group | | $127.22^{***}$ ±0.444 | $3.39^{***}$ ±0.274 | 84.45 ±8.92 | $34.54^{**}$ ±1.296 | 7.288 ±0.024 | 10.85 ±2.417 | 12.12 ±3.317 | $33.526^{***}$ ±6.52 |
| Hyperglycemic group | | $153.3^{***}$ ±2.929 | 4.283 ±0.248 | $186.6^{***}$ ± 9.621 | $34.833^{***}$ ±1.307 | $7.135^{***}$ ±0.014 | $27.88^{***}$ ±5.778 | --------- | $90.147^{***}$ ±13.758 |
| Hypoglycemic cases | | $143.06^{*}$ ±2.07 | $3.968^{*}$ ±0.167 | $41.93^{***}$ ±1.975 | $37.37^{***}$ ±1.161 | $7.174^{***}$ ±0.023 | $12.03^{*}$ ±1.474 | 7.930 ±2.160 | $42.92^{***}$ ±7.521 |
| Hypernatremic | D | $158.8^{***}$ ±2.133 | 4.5 ±0.198 | $120.3^{***}$ ±10.402 | $34.1^{*}$ ±1.353 | $7.17^{**}$ ±0.024 | $16.8^{*}$ ±3.054 | 14.180 ±2.958 | $64.450^{*}$ ±14.508 |
| group | R | 147.3 ±2.162 | 4.34 ±4.561 | 80.5 ±0.225 | 30.0 ±1.757 | 7.26 ±0.023 | 9.25 ±2.290 | 10.373 ±2.339 | 35.957 ±7.496 |
| Iso-natremic | D | 143.7 ±1.267 | 4.22 ±0.308 | $98^{*}$ ±8.753 | 38 ±1.732 | $7.23^{***}$ ±0.016 | $18^{**}$ ±3.184 | 9.362 ±2.149 | 21.034 ±6.280 |
| group | R | 141.8 ±1.766 | 4.35 ±0.201 | 76.14 ±3.978 | 33.7 ±2.134 | 7.35 ±0.013 | 6.8 ±1.316 | 12.573 ±2.806 | 26.296 ±4.589 |

* Significant where P < 0.05

** Highly significant where P < 0.01

*** Very highly significant where p < 0.005

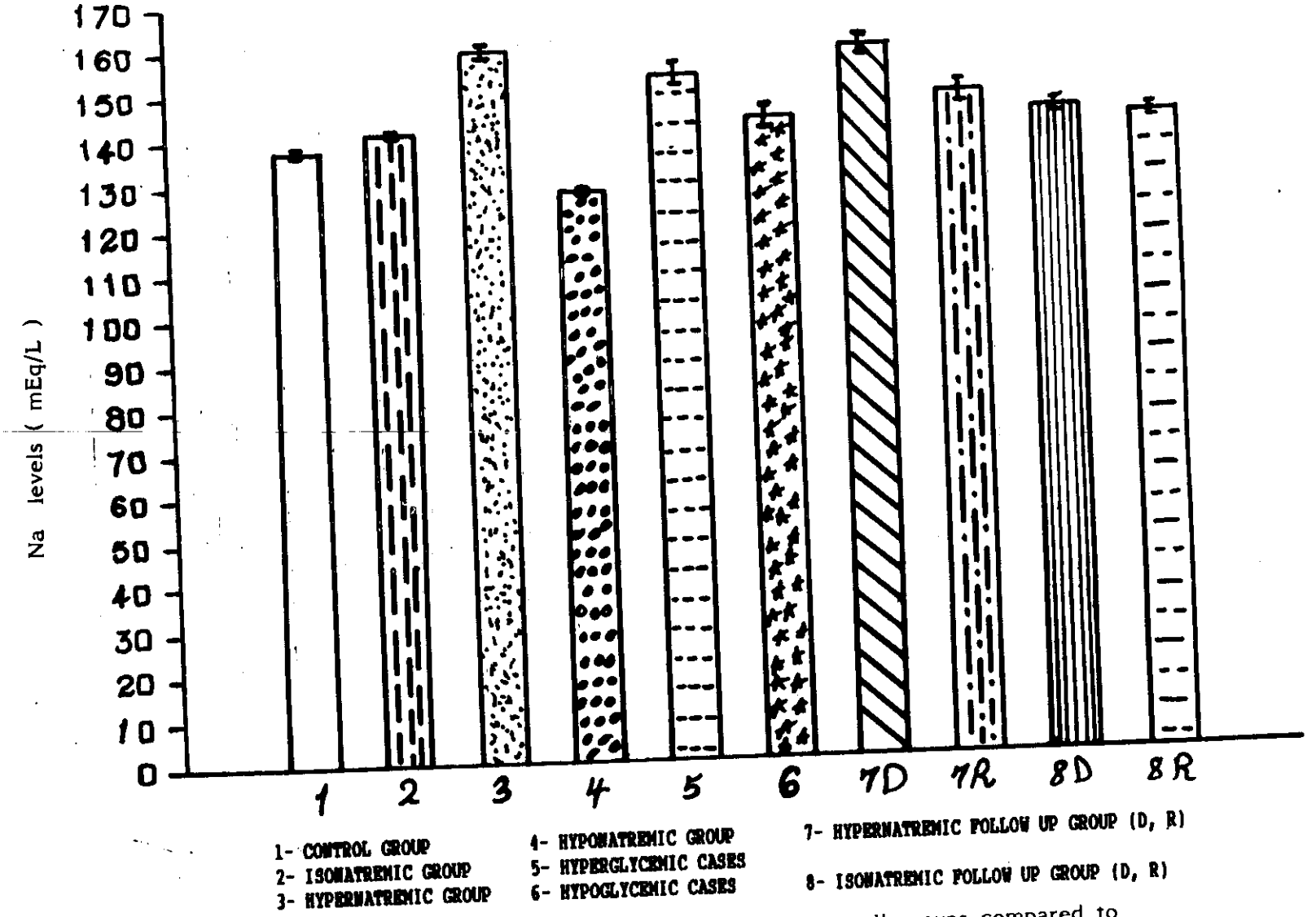


Fig.(6) Mean values + S. E. of Sodium levels in all groups compared to control group & in the follow-up during & after rehydration

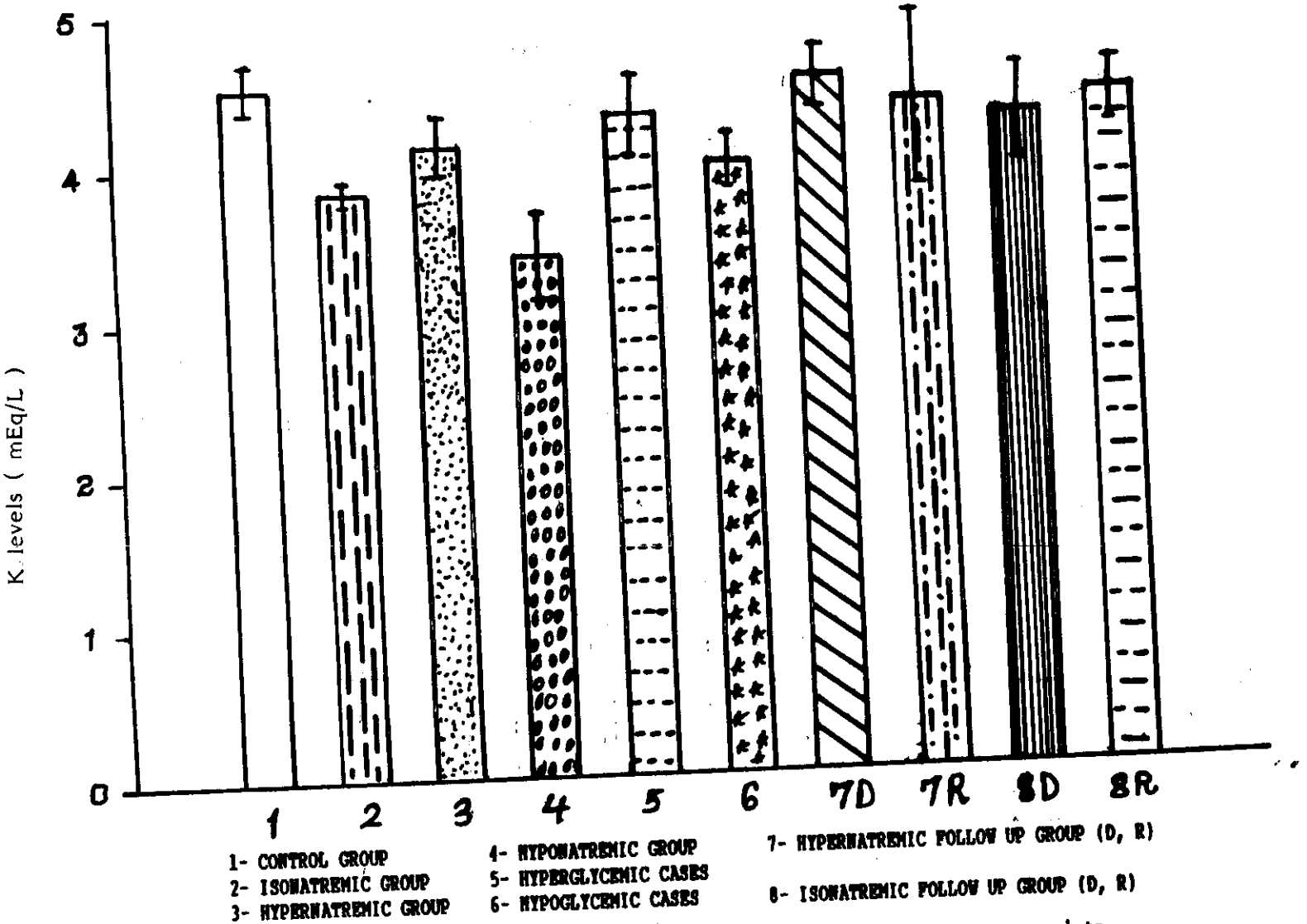


Fig.(7) Mean values +S. E. of Potassium levels in all groups compared to control group & in the follow - up during & after rehydration

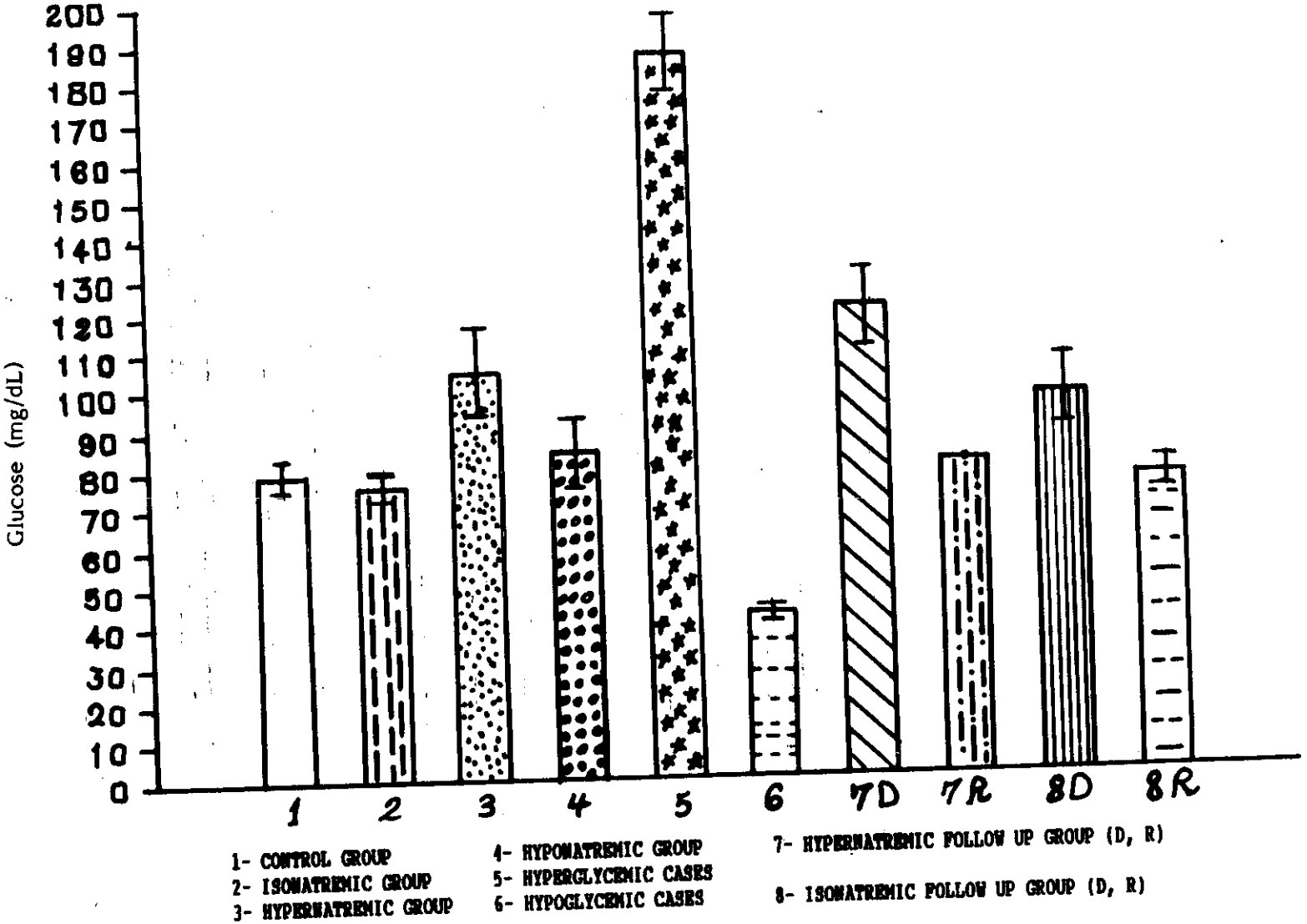


Fig.(8) Mean values + S. E. of Glucose levels in all groups compared to control group & in the follow - up during & after rehydration

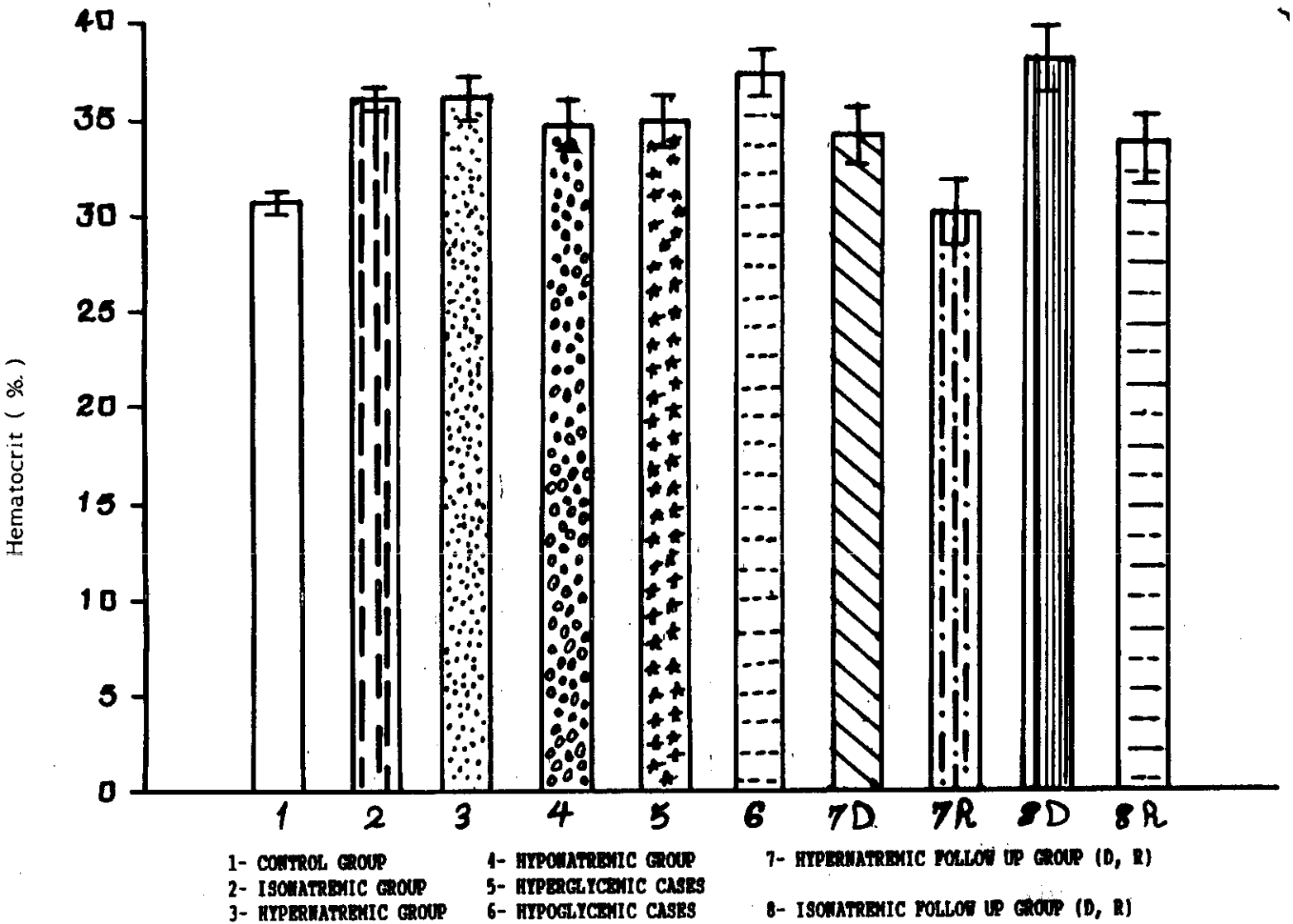


Fig.(9) Mean values + S. E. of Hematocrit in all groups compared to control group & in the follow - up during & after rehydration

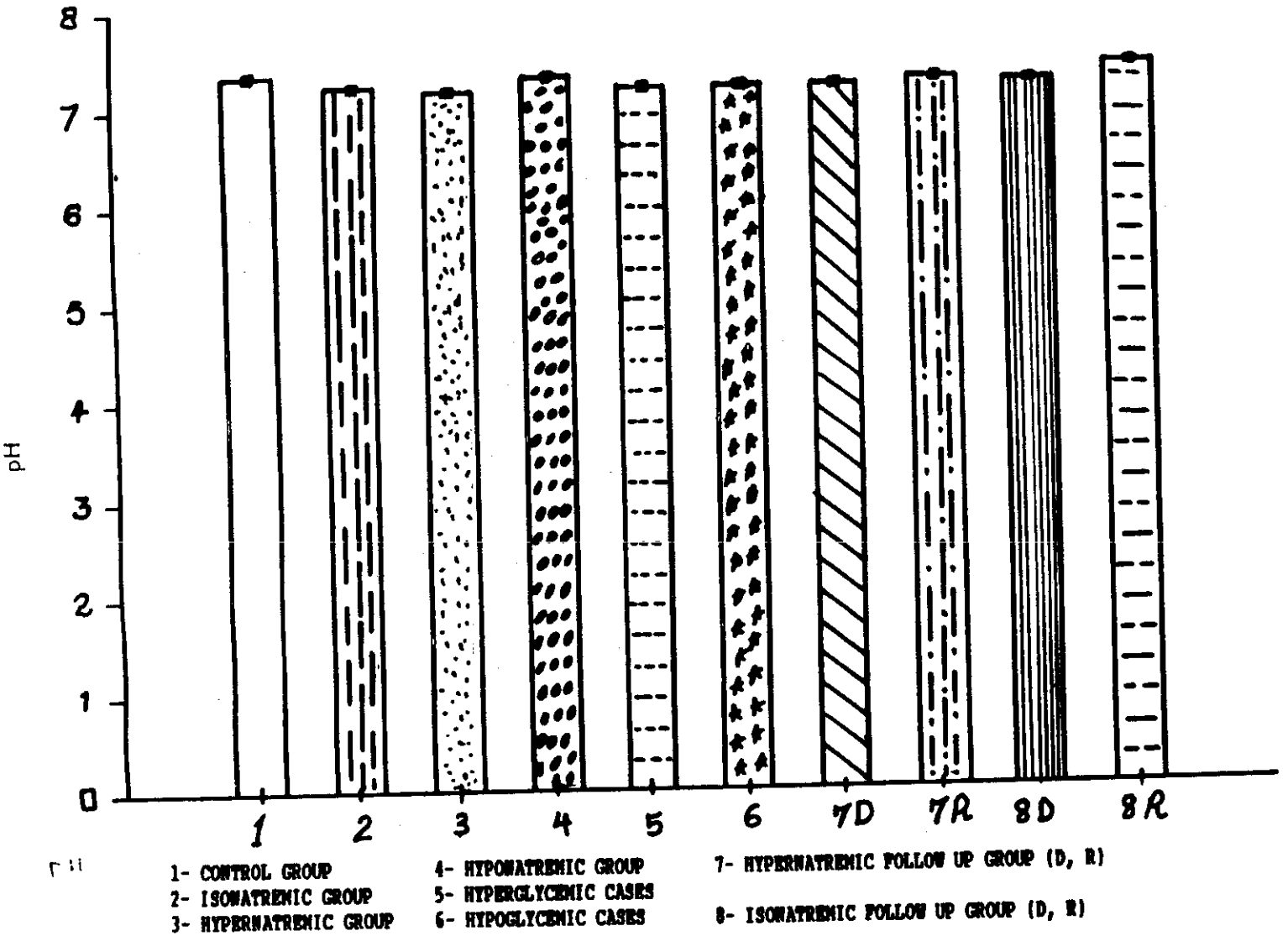


Fig.(10) Mean values + S. E. of pH in all groups compared to control group & in the follow - up during & after rehydration

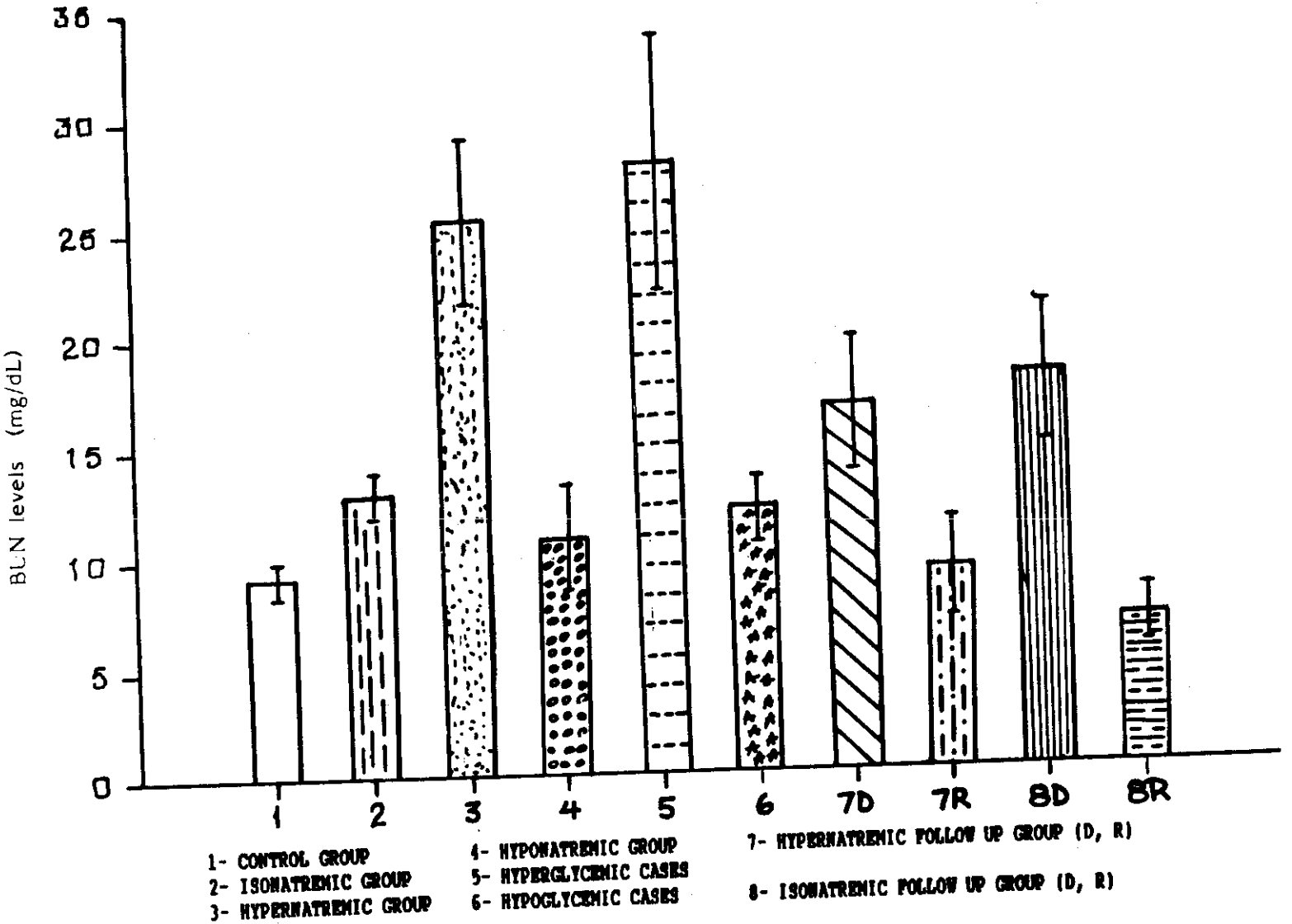


Fig.(11) Mean values + S. E. of BUN levels in all groups compared to control group & in the follow - up during & after rehydration

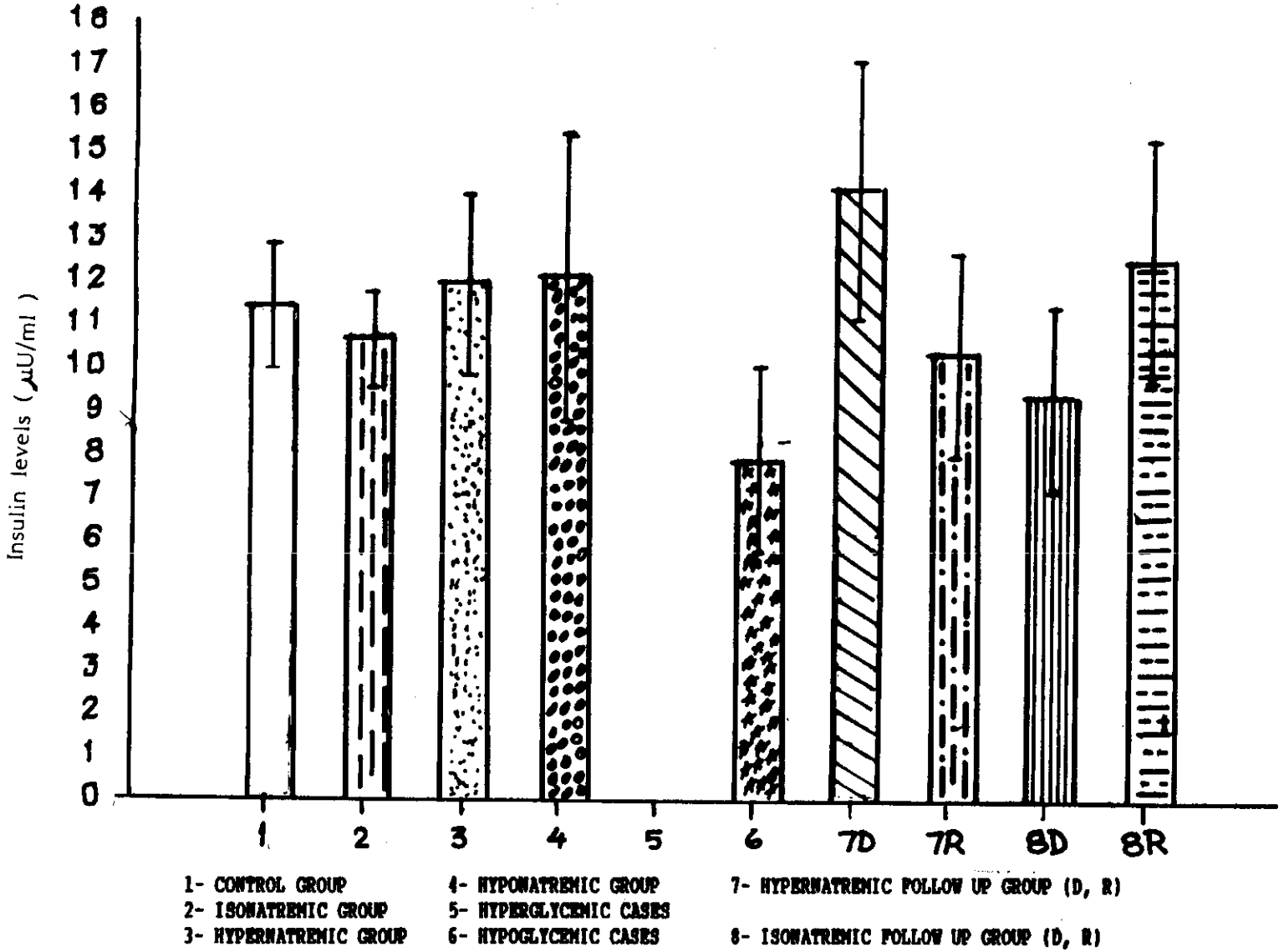


Fig.(12) Mean values + S. E. of Insulin levels in all groups compared to control group & in the follow - up during & after rehydration

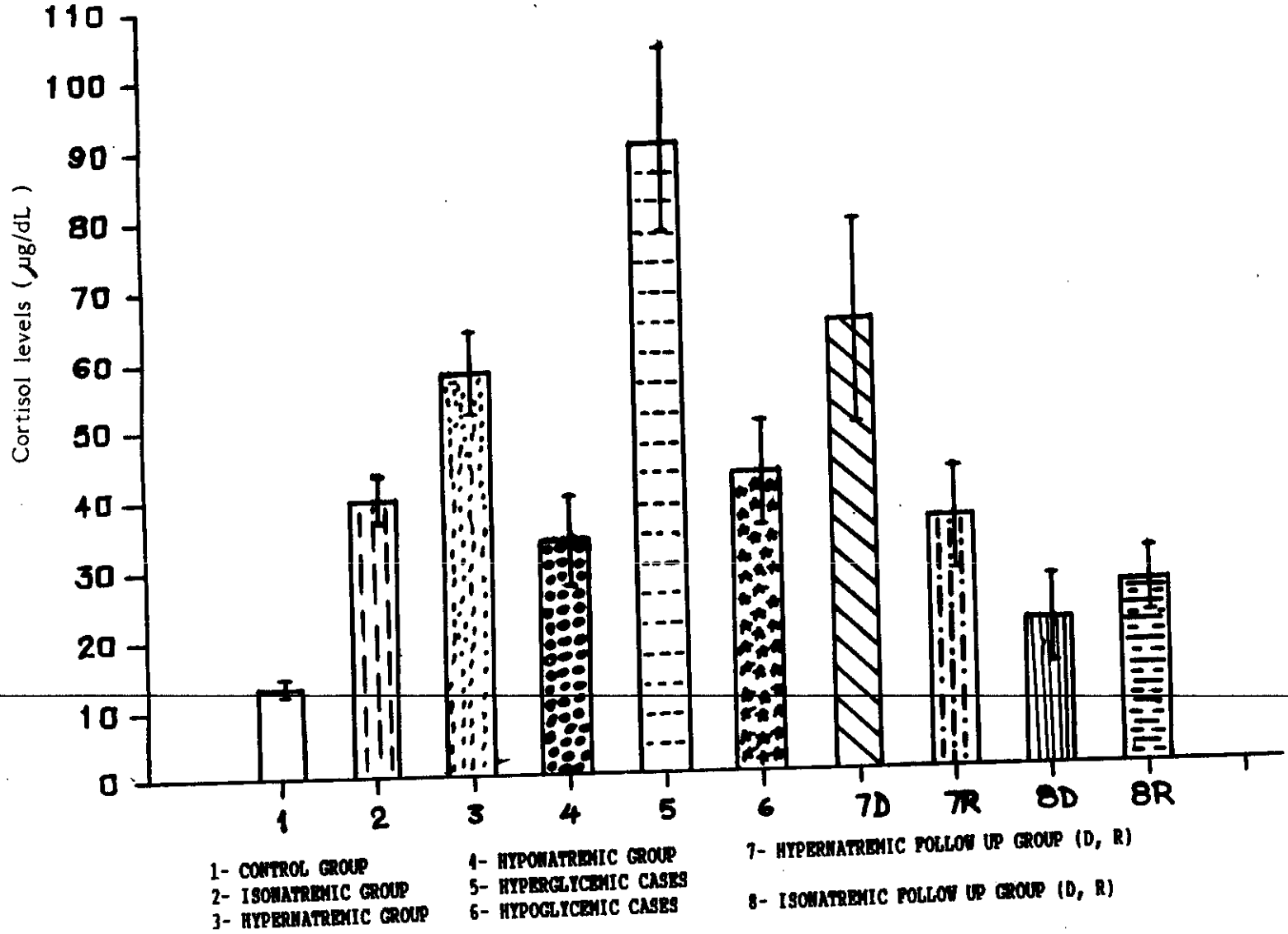


Fig.(13) Mean values + S. E. of Cortisol levels in all groups compared to control group & in the follow - up during & after rehydration