Summary And Conclusion

Protein energy malnutrition (PEM) is an important nutritional deficiency worldwide. It constitutes a major pediatric problem that threatens the infant’s health, growth and development. PEM is a spectrum of conditions of proteins and calories deficiencies. Malnutrition may be acute or chronic, reversible or irreversible. It leads to decrease of body defense mechanisms against infections and so it is one of the leading causes of morbidity and mortality.

Hence the aim of this work was to study the significance changes of some biochemical parameters in PEM infants as total serum proteins – serum albumin – serum alkaline phosphatase – serum triglycerides – serum cholesterol – serum glucose – protein electrophoreosis and complete blood picture in different stages of PEM infants and find its correlation with clinical features and prognosis of the disease. The study was conducted on 30 infants recruited from Banha University Hospital with their age ranging from 4 to 18 months with a mean of 9.7 ± 3.7 months.

They were further subdivided according to Wellcome classification (1970) into 2 groups. Group I, 6 cases with signs of marasmic kwashior and group II 24 cases with signs of marasmus, of those ther were 17 cases with mild maramus and 7 cases with moderate marasmus. Ten healthy controls with their age ranging from 4 to 18 months with a mean of 9.9 ± 4.3 months.

All cases and controls were subjected to full history – laying stress on dietetic history and clinical examination laying stress on anthropomtric measures and signs of nutritional deficiencies and investigations which included estimation of total serum proteins - serum albumin - serum alkaline phosphatase – serum triglycerides – serum cholesterol – blood glucose – complete blood picture and protein electrophorisis

119
- Statistical analysis of the obtained clinical and laboratory data revealed:

1. There was a non-significant difference between PEM and control groups as regard the age, height and head circumference of the infants included in both groups.

2. There was a significant decrease in the weight of PEM group compared to the weight of the control group. Mid arm circumference showed a significant decrease in PEM group compared to control group.

3. Regarding the biochemical parameters prior to treatment there was a significant decrease of serum total proteins – serum albumin and blood glucose level in PEM group compared to control group.

4. On the other hand there was a significant increase of serum alkaline phosphatase and triglycerides in PEM group compared to control group. However, serum total cholesterol showed a non-significant difference between both PEM and control group.

5. Moreover, there was a significant decrease of serum level of β globulins and γ globulins in PEM group compared to control group. The albumin – globulin (A/G) ratio showed a non-significant decrease in PEM group compared to the control group.

6. The estimated complete blood picture of PEM group showed a significant decrease of hemoglobin concentration with a decrease of red blood cells count in PEM group compared to the control group.

7. Post treatment there was remarkable weight gain compared to pre-treatment but still there was a significant decrease in comparison versus the control group.

8. Also serum total proteins showed a significant increase after treatment compared to their levels prior to treatment but the difference still significant compared to control group. Similarly serum albumin and γ globulins showed a significant increase after treatment compared to their levels prior to treatment and showed a non-significant decrease in comparison to control levels.
(9) Further more, serum alkaline phosphatase and triglycerides showed a significant decrease after treatment compared to the pre-treatment levels with a non significant difference compared to control level.

(10) On the other hand blood glucose and hemoglobin concentration levels showed a significant increase compared to pre-treatment but blood glucose showed a non significant decrease compared to control levels and hemoglobin concentration showed a significant decrease versus the control level.