Summary And Conclusion

Protein energy malnutrition (PEM) is an important nutritional deficiency wordwide . It constitutes a major pediatric problem that threats 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 irrversible . 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 electrophoreois 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 anthropomltric measures and signs of nutritional deficiencies and invistigations which included estimation of total serum proteins - serum albumin - serum alkaline phosphatase – serum triglycerides – serum cholesterol – blood glucose – complete blood picture and protein electrophoris

- Statistical analysis of the obtained clinical and laboratory data releaved :-

(1) There was a non significant difference between PEM and control groups as regard the age , height and head cricumference 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 their levels prior to treatment and showed a non significant decrease in comparison to control levels .

(9) Further more, serum alkaline phosphatase and triglycrides 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 .