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Levels of coenzyme Q10 in sickle cell patients

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Sickle-cell disease (SCD) is an autosomal recessive genetic blood disorder. Coenzyme Q10 is an oil-soluble, vitamin-like substance. The aim was to explore the possible role of coenzyme Q10 in improving the treatment and prognosis in sickle cell patient community. The first step towards this goal was to determine the levels of Coenzyme Q10 in sickle cell subjects. In this case controlled study of sickle cell disease patients and healthy matched controls, male and females were in 1:1 ratio. Both groups were submitted to data collection regarding age, sex, height, weight and average number of hospitalizations. Various hematological and physiological parameters were measured. Quantitative estimations of Coenzyme Q10 levels were done for both groups. Levels of Coenzyme Q10 were remarkably lower in sickle cell subjects as compared to normal ones. The levels of CoQ10 reported in this study are in the range of 1160 ngm/ml to 2309 ngm/ml for normal subjects while that among sickle cell subjects lies within a range of 650-1264 ngm/ml. On comparing the levels of CoQ10 with age, it was clearly evident in both males and females within each age subgroup that after initial increase, the levels of CoQ10 decreases with age. It can be concluded that Coenzyme Q10 levels showed significant variation between normal and sickle cell subjects and owing to its role in cellular bioenergetics and free radical metabolism, further research is needed to explore the effect of CoQ10 in sickle cell patients.

Biography

Gitai Yamini is currently working in academics with interest in Hematology Research.

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