

Abstract

To determine the levels and diagnostic potential of vitamin E (alpha-tocopherol) in protein energy malnutrition (PEM) in western Kenya. DESIGN: Passive Hospital based study conducted on inpatients and outpatients. SETTING: Webuye sub-District and Moi Teaching and referral Hospitals, Western Kenya. SUBJECTS AND METHODS: Serum levels for vitamin E and cholesterol concentrations in children < 5 years of age (n=56) admitted to Webuye District Hospital, Bungoma, Western Kenya and some (n=3) admitted to Moi teaching and referral Hospital, Eldoret Kenya suffering from Kwashiorkor, Marasmus or PEM and malaria plus there controls, for a period of one year (January-December, 2001) were examined. High Performance Liquid Chromatography (HPLC) and Spectrophotometry were used for the analysis. RESULTS: The serum vitamin E levels were higher in Kwashiorkor (0.078 mg/ml, SD 0.034) than marasmus (0.075 mg/ml; SD 0.069) and controls (0.057 mg/ml; SD 0.022). The mean serum cholesterol levels were higher in marasmus (204.6 mg/dl; SD 104.8) than Kwashiorkor (186.0 mg/dl; SD 119.3) and controls (154.3; SD 33.3). There was a significant correlation in vitamin E concentrations between Kwashiorkor and controls only at $P < 0.01$ as compared to Marasmus and Marasmic/Kwashiorkor. Vitamin E levels did not show significant correlation to cholesterol in malnourished children from Webuye, Bungoma in western Kenya at $P < 0.01$. CONCLUSION: Vitamin E could be a useful diagnostic tool for PEM in this area