ZN-08

EVALUATION OF Zn AND Fe IN DIETS OF PATIENTS WITH CHRONIC RENAL FAILURE

D.I.T. Fávaro[1], D. Mafra[2], V.A. Maihara[1], M.B.A. Vasconcellos[1], S.M.F. Cozzolino[2]

[1]Laboratório de Análise por Ativação Neutrônica (LAN - CRPQ) – IPEN/CNEN-SP. Caixa Postal 11049, 05422-970, São Paulo, Brasil.
[2] Faculdade de Ciências Farmacêuticas, Departamento de Alimentos e Nutrição Experimental, Universidade de São Paulo, SP, Brasil

Zinc depletion was suggested to play a role in the pathogenesis of some uremic symptoms in patients with chronic renal failure(CRF). Many factors could lead to zinc deficiency in uremia such as decreased dietary intake and intestinal absorption, as well as increased losses. Another problem observed in these patients is the anemia. In predialysis phase, chronic renal failure should be actively treated, but much less attention has been given to the role of iron (Fe) replacement in these patients, where the iron stores are low probably due to a combination of factors such as: reduced Fe intake caused by anorexia, low protein diets which contain low animal protein and low iron content, reduced gastrointestinal iron absorption, phosphate binders and histamine 2-blockers, increased gastrointestinal blood loss, proteinuria, and reduced bone marrow oral iron use. Having in mind the importance of Fe and Zn content in the diets of patients with chronic renal failure in a pre-hemodialysis phase, diets of 38 patients (24 men and 14 women) under a conservative treatment, with ages varying from 18 to 79 years (average of 54.7 ± 16.1 years), were analyzed and the concentration of these elements were determined by Instrumental Neutron Activation Analysis. The 24-hour recall method was used for sample collection and the diets were prepared to be analyzed by the Laboratory of Mineral Nutrition of FCF/USP. The content of proteins, lipids and carbohydrates were also analyzed in the diets and the daily intakes obtained were: energy, 26.2 ± 7.1 kcal/kg/day; proteins, 0.89 ± 0.2 kcal/kg/day; lipids, 20.4 ± 7.0% and carbohydrates, 64.4 ± 7.9 %. The results obtained for Fe and Zn showed an average concentration of 16.6 (± 5.5) μg Fe g^{-1} and 16.4 (± 5.0) μg Zn g^{-1} for the diets. The average daily dietary intake obtained was 6.1 (± 2.8) mg Fe/day and 5.9 (± 2.1) mg Zn/day. When these values were compared to the new recommended values set by Food and Nutrition Board, 2001 (8 - 11 mg Zn/day and 8 -18 mg Fe/day), it was verified that only one patient reached the recommendation for Zn and 3 patients were adequate for Fe. In general, the diets showed to be deficient for these elements and therefore there should be a nutritional follow-up to avoid possible negative effects.

Financial support: FAPESP