THE MINERAL AND VITAMINE E SUPPLEMENTENTATION STUDY ON BONE METABOLISM OF DIABETICS RATS

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Osteopenia one of the phathogenesis caused by the oxidative stress in the diabetics. We examined the effect of mineral and Vitamin E supplementation on bone metabolism of male experimental diabetic rats (180-220g; i.p streptozotocin 40mg/Kg body weight) whith glycemia ≥ 250mg/dL. Three groups of 10 rats: Control (C), diabetics (D) and diabetics supplemented (DS) with calcium and phosphorus (2.5x), vitamin E (20x) and zinc (60mg). Sacrificed the animals at days 5 and 30, calcium, phosphorus, magnesium, creatinine, albumin, glucose, alkaline phosphatase and acid phosphatase were measured using routine methods. Statistical analyses (analysis of variance ANOVA) were performed with Statistic Program, version 6.0 (Statsoft, Tulsa, OK, USA). No difference were observed for serum analysis except for phosphatases. Acid phosphatase showed similar activity on days 5 and 30 for all groups (13.9±0.2U/L). Alkaline phosphatase showed for DS on days 5 (347±3.6U/L) and 30 (462±8.8U/L) and increase when compares to C and D (262.5±2.3U/L). The serum activity increase of the alkaline phosphatase to the DS group sugest that the vitamine E, zinc, calcium, phosphorus supplementation showed an increase of the turnover. The results indicated that the zinc supplementation will promove the growing and bone mineralization and also its protection action to the free radical formation.

Key words: diabetic, osteopenia, suplementation.