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Serum Zinc Concentration Could Predict Bone Mineral Density and Protect Osteoporosis in Healthy Men

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Abstract:

Background: A growing body of investigations demonstrated the essence role of zinc on growing and maintaining bone tis¬sue .The idea that zinc could enhance bone content and adjourn or prevent osteoporosis in men, has been experimented as a hy¬pothesis. Methods: Six hundred healthy men (age 20-69 yr) through Iranian Multicenter Osteoporosis Study (IMOS) which is a na¬tional project running in 5 provinces in Iran for prevention and treatment of osteoporosis was selected via a cluster random sam¬pling and enrolled the study. Bone Mineral Density was measured by biphotonic absorptimetry DEXA for hip and lum¬bar spine. Zinc morning serum concentration was determined by atomic absorption spectrometry. SPSS 11.5 was used for data analysis. Body Mass Index (BMI) has been calculated by Weight (kg)/Height (meter)2 for each person Results: The mean age was 40.83±15.06 yr .Mean BMI was 24.79±3.94 kg/m2, overlay 27.3% were smoking, 12.5% had regu¬lar physical activities three times a week and 12.2% had a history of renal stone. Among them 30.1% had zinc deple¬tion, 56.8% normal range and 13.1% had serum zinc excess. 57.1% of individuals over 40 yr with hip osteoporosis were zinc deficient whereas 22.1% of them with normal BMD had this deficiency (P< 0.001). Conclusion: It is concluded that zinc has a positive association with BMD in men over 40 yr and zinc deficiency is more com¬mon in osteoporotic individuals.

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