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Bone mineral density and body weight in hepatitis C chronic liver disease patients

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Objective: To study the influence of body mass index on bone mineral density in patients with Hepatitis C chronic liver disease.

Design: Cross-sectional study with time span for inclusion set at 5 years.

Subjects and Methods: One hundred and ninety three males with chronic liver disease (CLD) due to hepatitis C virus infection (116 underweight and 77 normal weight) were included. Bone mineral density (BMD) was evaluated at hip and lumbar spine and correlated to body mass index (BMI), waist circumference (WC), serum biomarkers and serum vitamin D concentration.

Results: BMD of the right hip and the femoral neck in under and normal weight patients were (0.852 ± 0.117 versus 0.930 ± 0.123 , $P=0.002$ and 0.736 ± 0.119 versus 0.812 ± 0.132 , $P=0.004$ respectively), and the underweight subjects had lower BMD of the right hip (0.725 ± 0.141 versus 0.805 ± 0.145 , $P=0.002$ in normal weight CLD patients even after adjusted for weight, BMI, waist, HDL, and ALT. There were no significant differences between liver functions and viral titer in both groups. Subnormal calcidiol levels were present in 64% of the underweight patients and 51% of the normal-weight patients. The resulting models of linear regression showed that for the lumbar spine T scores model, the total variation of 21% was explained by the group i.e. underweight/normal weight and by age. For the femur neck T scores model, the total variation of 25.4% was explained by the interaction of underweight and vitamin D deficiency.

Conclusion: Vitamin D deficiency is common in both groups examined but only in the underweight patients, an association between vitamin D deficiency and reduced femur neck T scores is indicated. Therefore, weight exerts a detrimental effect on BMD in males with Hepatitis C chronic liver disease.

Biography

Amin Roshdy Soliman is Chairman of Nephrology and Renal Transplantation, Head of 31st Department of Medicine, Chief of Clinical Nutrition Faculty of Medicine Cairo University, Cairo, Egypt, Head of Nephrology and Renal Transplantation, French University Specialized hospital Cairo Egypt. He has completed his PhD at the age of 31 from Cairo University and postdoctoral studies from USC University School of Medicine, Los Angeles, CA. He has published more than 75 papers in reputed journals and serving as an editorial board member of local, regional and international journals.

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