“Influence of Insulin-Like Growth Factor 1 on Bone Mineral Density of Type 1 Diabetic Patients”

Souza, K. S. C [1]
[1] Department of Clinical and Toxicological Analyses, Federal University of Rio Grande do Norte, Natal, RN, Brazil.

The negative effect of type 1 diabetes (T1D) on growth factors of bone metabolism leads to a reduction in BMD. However, mechanisms underlying the low bone mineral density (BMD) in T1D are not fully understood but may include changes in anabolic agents of bone formation such as insulin-like growth factor 1 (IGF-1). BMD is the result of the dynamic process of bone tissue formation that determines the volume of bone and is influenced by the activity of endocrine and growth factors, such as IGF-1. The IGF-1 modulates skeletal development, through its interaction with the IGF-1R receptor, which is located on the surface of osteoblasts.

Since T1D leads to decreased production of IGF1, this reduction will conduce to probably impaired bone formation, abnormal mineralization, defects in bone microarchitecture, and increased bone fragility. This theme will be the main target in the section ““Influence of insulin-like growth factor 1 on bone mineral density of type 1 diabetic patients” within the 2nd Latin American Symposium on the Molecular Mechanisms of Skeletal Mineralization.

Keywords: type 1 diabetes; insulin-like growth factor 1; bone mineral density

.