

Clinical Implications of Bone Metabolic Markers in Patients with Type 2 Diabetes Mellitus

Yujie Wu*

Department of Endocrinology, The First Affiliated Hospital of University of Science and Technology of China Anhui Provincial Hospital, Hefei City, Anhui Province 230 001, China

KEYWORDS Bone Mineral Density. C-Terminal Telopeptide of Type I Collagen. Diabetic Kidney Disease. N-Terminal Propeptide of Procollagen Type 1 Albumin to Creatinine Ratio

ABSTRACT This paper compared the changes of bone metabolic markers (BTM) in patients with Type 2 Diabetes Mellitus (T2DM) with or without diabetic kidney disease (DKD). 204 T2DM patients were divided into 4 groups, such that group 1 had no albuminuria, group 2 had microalbuminuria, group 3 with macroalbuminuria, and group 4 with DKD according to urine albumin and albumin to creatinine ratio (ACR) and levels of serum creatinine (SCR). The ACR, SCR, uric acid (UA), osteocalcin (OC), procollagen type I N-terminal propeptide (PINP), C-terminal telopeptide of type I collagen (CTX) and bone mineral density of the lumbar vertebrae 1-4 (BMDLV) in DKD were considerably higher than those who were non-DKD ($P < 0.05$). When there is no DKD in diabetes, ACR detection is the most sensitive and specific. When it comes to DKD, the SCR is the most sensitive, and PINP specificity is greater than CTX, but the sensitivity is lower. DKD is a major contributor to osteoporosis risk.