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LETTER

Association Analysis of Triglyceride Glucose-Body Mass Index and Bone Turnover Markers in Patients with Type 2 Diabetes Mellitus [Letter]

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Dear editor

We appreciate Sun et al for their original article titled "Association Analysis of Triglyceride Glucose-Body Mass Index and Bone Turnover Markers in Patients with Type 2 Diabetes Mellitus"[1] published in Diabetes, Metabolic Syndrome and Obesity-Targets and Therapy, which offers us some fresh viewpoints.

This study mainly focuses on the association between bone turnover markers (BTMs) in type 2 diabetes mellitus (T2DM) and triglyceride glucose-body mass index (TyG-BMI). According to their findings, impaired bone turnover may be related to elevated TyG-BMI in patients with T2DM.

Even though we largely accept their conclusions, this study's design, particularly the exclusion criteria, still needs improvements to give precise data for clinical practice. In our opinion, the following issues should be clarified further. Firstly, there is a lack of bone mineral density (BMD) data is closely related to BTMs. Generally, the elderly with T2DM are prone to osteoporosis[2] and often suffer from sarcopenia[3] characterized by a decreased BMI, which ineluctably affects the value of TyG-BMI. Secondly, there is a lack of reliable comparability in BTMs between elderly males and postmenopausal females. Typically, BTM levels in elderly males with T2DM are significantly lower than in postmenopausal females.[2] Especially when most subjects are males, the bias in the statistical results will be more pronounced. Thirdly, there is a lack of identification of causative pathological factors for diabetes combined with osteoporosis. BTM levels are entirely different under different pathological situations, such as postmenopausal osteoporosis, osteoporosis aged ≥70, thyroid dysfunction-induced osteoporosis, and glucocorticoid-induced osteoporosis.[2] Finally, there is a lack of history of drug therapy in patients with T2DM, such as sodium-dependent glucose transporters-2 inhibitor (SGLT-2i)[4] and statins,[5] which affect BTM levels.

In short, despite a few defects, we still appreciate the authors' novel perspective. Their findings will remind clinicians to pay more attention to bone metabolism in T2DM, promptly identify high-risk factors for osteoporosis, and adopt effective intervention strategies to avoid the occurrence of osteoporosis fracture, a common serious adverse event in clinical practice.

Disclosure

The authors report no conflicts of interest in this communication.

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