Response

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Bone Mineral Density in Prediabetic Men (*Korean Diabetes J* 2010;34:294-302)

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Thank you for your interest in this study, the results of which showed that there is no substantial difference in bone mineral density (BMD) T-score measured using a quantitative ultrasound (QUS) between control and prediabetic men between 40 and 70 years of age [1].

The calcaneal QUS is an evaluation tool used to detect osteoporosis and risk of fractures based on measurements of the foot. It is very useful for clinical application due to its low-cost and high-mobility [2]. Generally, broadband ultrasound attenuation (BUA) and the speed of sound (SOS) are measured and used to calculate BMD. However, in this study, there was a limitation for that data which cannot be presented through a loss of data for BUA and SOS results. Dual-energy X-ray absorptiometry (DXA) has been used as a method to measure BMD [3]. However, due to radiation exposure or mobility restrictions, different examination methods are used to evaluate BMD and risk of fractures depending on the situation. In the case of epidemiologic studies like this one, QUS is used to determine BMD. There have been many reports that the *t*-scores derived from QUS measurements are correlated with the *t*-scores derived from DXA measurements [4-6]. In addition, the results of QUS measurements have been expressed as BMD in several studies [4,7,8]. Although DXA is the golden standard for measuring BMD, 100% accuracy in reflecting the real physiological state has not been achieved. Although 't-score assessed by QUS' is a more accurate representation of our measurement than is BMD, we can use BMD as broader meaning when considering the correlation between QUS and DXA.

It is a well known fact that insulin has an anabolic effect on bone cells [9,10]. As noted in your comment, the correlation between insulin and BMD showed confusing results in this study [1]. As indicated, statistical limitations or non-linear relationships are likely to be seen. The BMD in type 2 diabetes patients have reported conflicting results according to the study subjects or age groups [11-13]. Because we targeted the aforementioned prediabetic patient group, the BMD in diabetes patients could be projected through this study; however, there was no observed significant difference between prediabetic subjects and the control group.

The participants in this study were males between 40 and 70 years of age. Many factors that have an effect on BMD were not considered in this study; therefore, we believe that a prospective control study is required to overcome this limitation. This study is the first to analyze BMD in Korean prediabetic patients, and the results are expected to be clinically useful.

We would like to thank you once again for your comments and interest in this study.

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