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Correlation Between Bone Mineral Density and Sarcopenia in Hemodialysis Patients in Mongolia

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Objectives : The aim of this study is to determine the prevalence of sarcopenia and osteoporosis in hemodialysis patients in Mongolia for the first time and to demonstrate the relationship between them.

Methods : Cross-sectional study was carried out on the 147 patients aged between 21 and 75 years who were receiving standard-dose of hemodialysis treatment at the Medvic dialysis center in Mongolia. Bone mineral density (BMD) was determined World Health Organization (WHO) classification of BMD by using SONOST 3000 quantitative ultrasound bone densitometer. Sarcopenia was determined by Asian Working Group for Sarcopenia (AWGS) 2019 criteria, including skeletal muscle index (SMI) by inbody370S bioelectrical impedance analysis, gait speed, and grip strength. Data was analyzed using SPSS 26.

Results : The mean age was 50±12 years. The study of 83% of hemodialysis patients diagnosed with osteoporosis, 14.3% with osteopenia, and 2.7% with normal bone mass results. 57.8% of the patients were diagnosed with possible sarcopenia, 2.7% with sarcopenia, and 6.8% with severe sarcopenia. There was a significantly correlation between bone mineral density and sarcopenia ($r=-.332$, $p<0.01$).

Conclusions : The results of our study indicate that prevalence of osteoporosis is high in Mongolian hemodialysis patients. The relationship between sarcopenia and osteoporosis highlights the need for treatment management.