ORIGINAL ARTICLE

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Total body and regional bone mineral content in hemodialysis patients

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Bone mineral content (BMC) in the total body and lumbar spine was evaluated in 126 hemodialysis patients (60 males, 66 females) by dual photon absorptiometry with the Norland DBD 2600. Measurements of: 1) total body BMC divided by lean body mass (BMC_{TB}/LBM), 2) bone mineral density (BMD) of total body, 3) BMD of four regional sections (head, trunk, pelvis, and legs), and 4) BMD of lumbar spine, generally showed a significant decrease in the hemodialysis patients compared to the reference population. However, arm BMD did not show a significant difference between patients and control populations. The z-score of BMC_{TB}/LBM declined significantly throughout the duration of hemodialysis, although that of the lumbar spine BMD did not. It should be noted that the degree of decrease in BMC was more prominent in the total body measurement than in the lumbar spine measurement. There was preferential osteopenia of the total body in the hemodialysis patients. Although the lumbar spine BMD showed a lower value than the control population, the lumbar spine is not the recommended region to monitor the BMD change in hemodialysis patients.

Key words: bone mineral content (BMC), bone mineral density (BMD), dual photon absorptiometry (DPA), hemodialysis, total body, lumbar spine