THE DIAGNOSTIC VALUE OF BOTH HIP BONE MINERAL DENSITY MEASUREMENT IN THE KOREAN POPULATION

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Background & Objective: There is controversy as to whether the bone mineral density (BMD) of one neck of femur is sufficiently predictive of the other to allow only one side to be routinely scanned. Methods: Using dual-energy x-ray absorptiometry scan, BMD of the lumbar spine and both hips were measured in a group of Korean subjects age 50 or older (mean age 69.9, SD 10.0). Results: Of 302 patients included, 176(58.3%) were women. For all patients irrespective of spine status, left-right hip BMD and T-scores were highly correlated for all three hip subreions: r values for total hip, femoral neck, and trochanter were 0.95, 0.84, and 0.95 respectively ($p < 0.001$). The mean BMDs SDs) for left vs. right hips were as follows: total hip, 0.830 (0.165) vs. 0.826 (0.165), p=0.1552; femoral neck, 0.776 (0.151) vs. 0.785 (0.160), p=0.0794; trochanter, 0.679 (0.158) vs. 0.669 (0.162), p=0.0006. The left-right difference in BMD exceeded the least significant change for 17.55% of women at total hip, 26.1% at femoral neck, and 38.41% at trochanter. This finding was not influenced by spine status as normal, osteogenic or osteoporotic. The minimum T-score was usually at the femoral neck irrespective of age. For a hip pair (individual subjects), the lowest T-score was usually at the same subregion in both hips (59.60% of the time). Conclusion: This study suggests that measuring BMD of both left and right femur is beneficial in only a small number of cases.