



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Abstract: Aim: The aims of this study were to evaluate the ability of quantitative ultrasound (QUS) to identify osteoporosis in postmenopausal women on the basis of dual-energy X-ray absorptiometry (DXA) T-scores, the best predictor of osteoporotic fractures, and to find a cut-off value for QUS with the optimum sensitivity and specificity, in order to select postmenopausal women for DXA referral. Materials and Methods: This study included 116 postmenopausal women attending Adnan Menderes University Family Medicine Clinic in Aydın. Bone density was measured at the calcaneus using QUS and at lumbar spine and femoral neck with DXA. Receiver operating characteristic analysis was carried out to determine the best sensitivity and specificity for QUS T-scores for comparison with the gold standard. Results: Mean age of the group was 57.3 ± 8.4 years. According to DXA measurements, 34.5% of the women were considered osteoporotic and 49.1% osteopenic. There were weak-moderate positive correlations between QUS measurements and DXA T-scores of lumbar spine and femoral neck ($r = 0.231$ and $r = 0.286$, respectively, $P < 0.05$). Using DXA as the gold standard, the cut-off value of QUS T-score was -2.2 with 77.5% sensitivity and 50.0% specificity for osteoporosis. The area under the curve for QUS T-scores in identifying osteoporotic subjects was 0.646 ($P < 0.01$). Conclusions: In our population, postmenopausal women with QUS T-score ≤ -2.2 are candidates for referral for DXA measurements. QUS can be used for stratifying the population into risk groups for osteoporosis and its use should be encouraged to increase detection of osteoporosis in primary care settings in developing countries.

Key Words: Osteoporosis, quantitative ultrasound, bone mineral density, postmenopausal women

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