

Bone Mineral Density and Quality, Body Composition of Women in the Postmenopausal Period

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Abstract : In the diagnostics of osteoporosis, the gold standard is considered to be bone mineral density; however, X-ray densitometry is not an accurate indicator of osteoporotic fracture risk under all circumstances. In this regard, the search for new methods that could determine the indicators not only of the mineral density, but of the bone tissue quality, is a logical step for diagnostic optimization. One of these methods is the evaluation of trabecular bone quality. The aim of this study was to examine the quality and mineral density of spine bone tissue, femoral neck, and body composition of women depending on the duration of the postmenopausal period, to determine the correlation of body fat with indicators of bone mineral density and quality. The study examined 179 women in premenopausal and postmenopausal periods. The patients were divided into the following groups: Women in the premenopausal period and women in the postmenopausal period at various stages (early, middle, late postmenopause). A general examination and study of the above parameters were conducted with General Electric X-ray densitometer. The results show that bone quality and mineral density probably deteriorate with advancing of postmenopausal period. Total fat and lean mass ratio is not likely to change with age. In the middle and late postmenopausal periods, the bone tissue mineral density of the spine and femoral neck increases along with total fat mass.

Keywords : osteoporosis, bone tissue mineral density, bone quality, fat mass, lean mass, postmenopausal osteoporosis

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