

# L54 BONE MINERAL DENSITY IN POSTMENOPAUSAL WOMEN WITH OSTEOPOROTIC FRACTURES

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### BONE MINERAL DENSITY IN POSTMENOPAUSAL WOMEN WITH OSTEOPOROTIC FRACTURES

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**This research is aimed** at studying the bone mineral density among postmenopausal women with osteoporotic fractures.

**Object.** The total of 160 postmenopausal women 45–79 years old (average age –  $63,4 \pm 0,7$  years; average duration of postmenopausal period –  $14,4 \pm 0,7$  years) were examined. Patients were divided into two groups: group A – women ( $n=100$ , average age –  $63,2 \pm 0,9$  years) without osteoporotic fractures, group B – women ( $n=60$ , average age –  $65,5 \pm 1,2$  years) with osteoporotic fractures in their anamnesis.

**Methods.** The questionnaire; measurement of anthropometrical characteristics (height, mass, body mass index); bone mineral density (BMD), T- and Z-scores of the spine (L1–L4), hip (femoral neck, trochanter and total femur), and forearm (ultradistal, midforearm) were determined by means of Dual-energy X-ray absorptiometer „Prodigy” (GE Medical

systems, 2005).

**Results.** All indexes of different skeletal areas measured by DXA in postmenopausal women with osteoporotic fractures were significantly lower ( $p < 0,001$ ) compared with the data of women without osteoporotic fractures: total body – BMD:  $0,999 \pm 0,015$  g/cm<sup>2</sup> and  $1,097 \pm 0,010$  g/cm<sup>2</sup>, T-score:  $-1,59 \pm 0,18$  and  $-0,34 \pm 0,12$ , Z-score:  $-0,81 \pm 0,15$  and  $-0,06 \pm 0,09$ ; spine (L1–L4) – BMD:  $0,909 \pm 0,023$  g/cm<sup>2</sup> and  $1,094 \pm 0,017$  g/cm<sup>2</sup>, T-score:  $-2,26 \pm 0,20$  and  $-0,78 \pm 0,14$ , Z-score:  $-1,18 \pm 0,18$  and  $-0,02 \pm 0,13$ ; femoral neck – BMD:  $0,780 \pm 0,016$  g/cm<sup>2</sup> and  $0,886 \pm 0,014$  g/cm<sup>2</sup>, T-score:  $-1,88 \pm 0,11$  and  $-1,09 \pm 0,01$ , Z-score:  $-0,59 \pm 0,10$  and  $-0,05 \pm 0,09$ ; trochanter – BMD:  $0,696 \pm 0,017$  g/cm<sup>2</sup> and  $0,819 \pm 0,016$  g/cm<sup>2</sup>, T-score:  $-1,35 \pm 0,15$  and  $-0,36 \pm 0,12$ , Z-score:  $-0,42 \pm 0,14$  and  $0,33 \pm 0,11$ ; total femur – BMD:  $0,839 \pm 0,019$  g/cm<sup>2</sup> and  $0,968 \pm 0,016$  g/cm<sup>2</sup>, T-score:  $-1,29 \pm 0,16$  and  $-0,27 \pm 0,12$ , Z-score:  $-0,33 \pm 0,13$  and  $0,45 \pm 0,11$ ; ultradistal forearm – BMD:  $0,299 \pm 0,008$  g/cm<sup>2</sup> and  $0,352 \pm 0,08$  g/cm<sup>2</sup>, T-score:  $-2,12 \pm 0,20$  and  $-0,77 \pm 0,19$ , Z-score:  $-0,74 \pm 0,21$  and  $0,39 \pm 0,18$ ; midforearm – BMD:  $0,562 \pm 0,013$  g/cm<sup>2</sup> and  $0,648 \pm 0,010$  g/cm<sup>2</sup>, T-score:  $-2,13 \pm 0,18$  and  $-0,96 \pm 0,12$ , Z-score:  $-0,69 \pm 0,16$  and  $0,18 \pm 0,12$ , accordingly.

**Conclusion.** Lowbone mineral density of different skeletal areas is a significant predictor of osteoporotic fractures in postmenopausal women.