

# Clinical and Medical Case Reports

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### Bone mineral density, vertebral pain syndrome, physical performance indices in women of older age groups with vertebral fractures depending on their localization

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The purpose was to study the bone mineral density (BMD), vertebral pain (VP) and physical performance indices (PPI) in women of older age groups with vertebral fractures (VF) depending on their localization.

**Materials & Methods:** 139 women aged 50-89 years old were examined and divided into 2 groups: I – patients without any history of osteoporotic fractures (WF), II – women with VF at the thoracic and/or lumbar spine. Subsequently, patients of the second group were divided into subgroups depending on the localization of VF (at thoracic (TF), lumbar spine (LF) or combined fractures (CF)). The assessment of the severity of VP was performed using a 11-component numerical rating scale, the physical capabilities - using static and dynamic functional tests (Thomayer, Schober tests, chest excursion, lateral trunk lean, 3-, 4-, 15-meter tests, "stand up from the chair" etc.), BMD was detected using DXA.

**Findings:** It was found that BMD indices in women with VF were significantly lower than controls (without any previous fractures) regardless of their localization. Most of the VP indices at thoracic spine in women with TF and CF were significantly higher compared to controls, in contrast to patients with LF. It was shown that for women with TF results of breath holding and 15-meter tests were significantly worse compared with control, whereas in persons with LF results of Schober index, lateral trunk lean, hand grip strength and test "stand up from the chair" were worse. In patients with CF most of PPI (lateral trunk lean, chest excursion, hand grip strength and 15-meter test) were significantly worse in comparison with control group.

**Conclusion:** Indices of vertebral pain and physical performance in women of older age groups have their peculiarities depending on the localization of VF, which should be taken into account when developing rehabilitation programs for people with fractures.

#### Biography

Nataliia Grigorieva received Medical Degree in 1994 and Ph.D. degree in 1999 at Odessa Medical University (Ukraine). Since 2000, she worked in the Department of Clinical Physiology and Pathology of Musculoskeletal System at D.F. Chebotarev Institute of Gerontology NAMS Ukraine. She completed primary training in rheumatology and is now a rheumatologist of the highest qualification. Since 2017, she is Full Professor of medicine. Her researches focused on experimental modeling of bone and joint diseases, bone and joint pathology and women aging, premature aging, and rehabilitation. She is a Secretary of the Ukrainian Scientific and Medical Society of Gerontology and Geriatrics and a President of "Ukraine without osteoporosis and fractures" Patients Association. She is a member of Editorial Board of Ukrainian and foreign journals, author and co-author of over 350 publications in national and international journals, more than 10 monographs, more than 30 national guidelines, newsletters, and patents.

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