INFLUENCE OF VERTEBRAL DEFORMATION ON THE VERTEBRAL PAIN SYNDROME

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Key words: *vertebral pain syndrome, vertebral parameters, women*

The aim of our study is to investigate the relation between the intensity of pain in the thoracic and lumbar spine and morphometric parameters of vertebrae in postmenopausal women.

Object. We have examined 250 postmenopausal women aged 50-79 years divided into two groups: 171 women without vertebral deformations and 79 women with confirmed vertebral fractures. The duration of pain syndrome after fracture was over 6 months.

Methods. The presence and intensity of pain syndrome in the thoracic and lumbar spine were assessed using a visual analog scale (VAS). Morphometric analysis of the vertebral parameters was carried out using the VFA software of the dual-energy X-ray densitometer «Prodigy» (GE Medical systems, Lunar, model 8743, 2005).

Results. The intensity of pain syndrome in the lumbar spine significantly correlates with L1 vertebral indices: A/P (r=-0.37, p=0.01) and M/P (r=-0.29, p=0.03) in women with normal BMD. The intensity of pain in the thoracic region correlates with Th10 vertebral indices: A/P (r=-0.45, p=0.0004) and M/P (r=-0.35, p=0.01) in women with osteopenia. We have not determined any significant relationship between the level of back pain and vertebral body size index in women with osteoporosis and without vertebral fractures.

In 11% patients with confirmed wedge and compression vertebral fractures chronic pain syndrome is absent, and the presence of other fractures does not increase the frequency of back pain syndrome (14%).

The presence of vertebral fractures significantly increases the risk of pain in the thoracic spine (RR=1.32; 95% CI: 1.09-1.60, p= 0.004).

In patients with vertebral fractures the intensity of pain in the thoracic spine significantly correlates with indices of Th11-Th12vertebrae, and relates to the number and localization of vertebral fractures. The level of pain in the lumbar region does not depend on the location

and number of damaged vertebrae.

Conclusion. In postmenopausal women without osteoporosis and vertebral fractures level of pain may be associated with initial vertebral deformation, limiting the spine transition zone. The presence of vertebral fractures increases the risk of pain syndrome in the thoracic region depending on the location and number of damaged vertebrae.

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WPŁYW DEFORMACJI KRĘGOSŁUPA NA ZESPOŁY BÓLOWE KRĘGOSŁUPA

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Słowa kluczowe: *zespół bólowy kręgosłupa, parametry kręgów, kobiety*