

# BACK PAIN AND OSTEOPOROSIS

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Research was aimed at studying the peculiarities of vertebral pain syndrome and its influence on life quality in women with postmenopausal osteoporosis in relation to localization and vertebral bodies' deformation types.

### Object

353 women in postmenopausal period aged from 50 to 89 years were examined and divided into groups depending on localization and type of vertebral deformations. Research does not include the women with duration of postmenopausal period less than six months.

### Methods

The questionnaire, X-ray of pectoral and lumbar spine in two projections, morphometry of vertebral analysis were used.

### Results

Intensity of vertebral pain syndrome in women with osteoporosis and its complications depends on localization of deformed vertebrae. In pectoral spine intensity of pain syndrome (VAS) was higher in women with fractures of pectoral vertebrae ( $3,9 \pm 0,6$  points,  $p < 0,05$ ) and vertebral fractures

(pectoral and lumbar spine) of combined localization ( $3,7 \pm 1,1$  points,  $p < 0,05$ ) compared with fractures present only in lumbar spine ( $2,7 \pm 0,7$  points). In lumbar spine intensity of pain syndrome (VAS) was higher in women with fractures of combined localization ( $6,5 \pm 0,4$  points,  $p < 0,05$ ) compared with fractures of vertebral bodies only in pectoral ( $4,8 \pm 0,6$  points) or only in lumbar spine ( $5,1 \pm 0,6$  points). According to questionnaire EvroQol-5D, Life Quality of women with fractures of only pectoral vertebrae was significantly lower ( $4,7 \pm 0,6$  points,  $p < 0,05$ ) in contrast to women with fractures of lumbar spine vertebrae ( $5,9 \pm 0,4$  points) or combined localization fractures ( $6,4 \pm 0,5$  points). Life Quality and general condition, related to back pain caused by the osteoporosis, according to the questionnaire ECOS-16, in women with vertebral fractures of ( $52,3 \pm 6,2$  and  $53,8 \pm 2,4$  points respectively,  $p > 0,05$ ) only pectoral or only lumbar spine did not differ significantly, while women with fractures of combined localization had a considerably lower life quality index ( $60,6 \pm 2,2$  points,  $p < 0,05$ ). The most intense vertebral pain syndrome was observed in women with fractures of 3 vertebral bodies. The life quality indexes and daily activity were certainly higher in patients with fractures of three vertebral bodies in comparison with fractures present in 1-2 bodies or plural deformations.

The vertebral pain syndrome depends not only on amount and localization, but on presence of deformed vertebrae. Reliable aggravation of syndrome was explained by the presence of compression vertebral fractures in pectoral area ( $p < 0,05$ ), while in the lumbar spine there were no reliable distinctions related to the fracture occurrence. Life quality of the patients was more influenced by the presence of compression deformations (EvroQol-5D:  $6,3 \pm 0,4$  points – with compression, and  $5,4 \pm 0,4$  points – with wedge-shaped deformations,  $p < 0,05$ ; ECOS-16:  $53,8 \pm 3,1$  and  $57,7 \pm 3,5$  points respectively,  $p < 0,05$ ).

## Conclusion

The vertebral pain syndrome is observed with all types of vertebral deformations; however, its intensity is most clearly

expressed in patients with compression fractures. Reliable correlation exists between the occurrence of pain syndrome, life quality indexes on one hand, and incidence and intensity of deformations of pectoral spine on the other.