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Alanine and aspartate aminotransferase and urea concentrations in patients with degenerative spine disease

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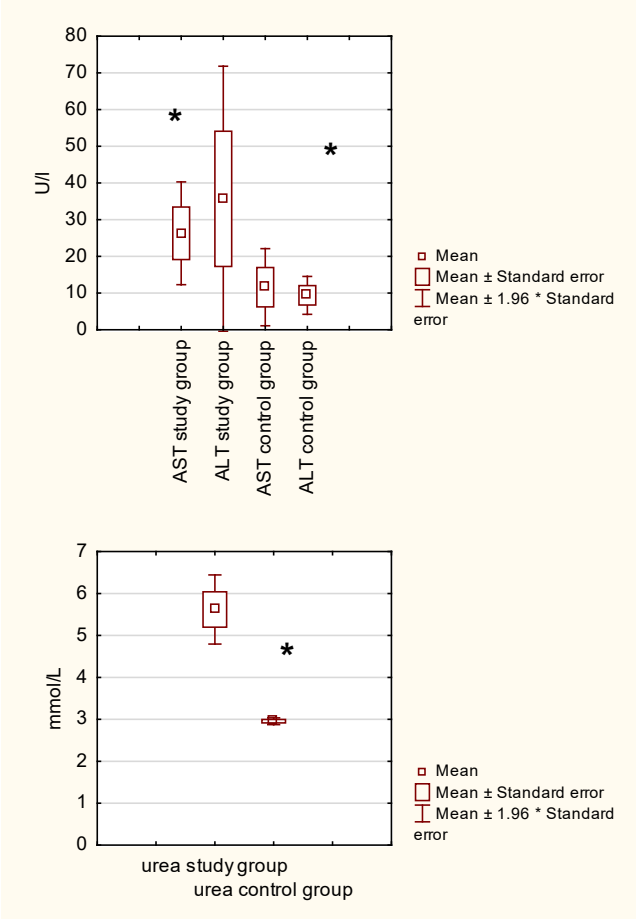
Graphical Abstract



Abstract.

Osteoarthritis of the intervertebral disc of the lumbosacral spine accounts for approximately 15% of all absences from work. It is also the most common non-traumatic cause of disability in patients up to 45 years of age. The aim of the study was to evaluate the concentration of alanine aminotransferase, aspartate aminotransferase and urea, in a group of 60 patients with osteoarthritis of the lumbosacral spine qualified for microdiscectomy (S group) compared to 60 healthy volunteers (C group). The patients declared that due to pain, they would take non-steroidal painkillers for an average of 2 years. 40% of patients used drugs in the maximum allowable doses. Patients qualified for surgery had a score of 5-7 on the Pffirrman severity of degenerative changes. Statistical analysis showed significant differences in the concentration of the assessed markers: alanine aminotransferase (ALT): S vs. C 35.7 U/l vs 9.4U/l; p = 0,000297 ; aspartate aminotransferase (AST) S vs. C 26.3 U/l vs. 11.6U/l; p = 0,000060; urea (U) 5.62 mmol/L vs 2.96 mmol/L; p= 0.000006. Reported higher levels of liver enzymes and urea in patients with osteoarthritis of the spine may be due to several

	reasons. First, it may be the result of long-term use of high doses of non-steroidal pain medications. Secondly, it may indirectly indicate microdamages of skeletal muscles and their hypoxia. Of course, the values of the assessed parameters are not significantly increased, but they indicate the need to limit pharmacotherapy with analgesics in favor of physiotherapy or prior neurosurgery.

Introduction *(optional)*

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Materials and Methods *(optional)*

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Results and Discussion *(optional)*

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Conclusions *(optional)*

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References *(mandatory)*

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