and indirect effects on the integrity of the β-cells of pancreatic islets of Langerhans. The increased concentration of glutamate is present in all tissues with DM type 1 and type 2 DM.

Material and Methods. Type 1 DM was chemically induced in male Wistar rats by intraperitoneal injection of streptozotocin. The purpose of this study was to determine the level of glutamate in the liver of diabetic rats and to compare it to the level of glutamate in the liver of diabetic rats post-treated with different concentrations of polyphenols olive leaf extract (512, 768 and 1024 mg/kg). The concentration of glutamate was determined spectrophotometrically in 20% liver homogenate while polyacrylamide gel, sodium dodecyl sulphate (SDS-PAGE) was used to separate the proteins and to determine the difference in the expression of the same in the experimental groups.

Material and Methods. The increased levels of glutamate were established in the liver of diabetic rats. In groups of animals with short diabetes (8 days), glutamate concentration was proved to be lower compared to a group of animals with long-term diabetes (30 days). Furthermore, the results showed a significantly lower concentration of glutamate in the liver of post treated animals with olive leaf extract in a dose-dependent manner.

Conclusions. The results of this research lead to the conclusion that the olive leaf extract can be used in the treatment and co-treatment of type 1 DM and thus narrowing the consequences and complications that occur as a result of this multi-functional disease.

THE INFLUENCE OF ANTHROPOMETRIC DATA ON THE DEGREE OF NARROWING OF THE LATERAL INTERVERTEBRAL FORAMEN OF THE LUMBAR-SACRAL SPINE IN THE PRESENCE OF INTERFORAMINAL LIGAMENTS

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Key words: *intervertebral channels, constitution type, soft stroma, spinal cord*

Aim. To prove participation of a soft stroma of intervertebral channels of lumbosacral department of a backbone in development of an ischemia of the bottom departments of a spinal cord on the basis of studying of topographical anatomy of contents of channels at people with various type of a constitution.

Material and Methods. Contents of 620 lateral intervertebral channels of lumbar department of a backbone are studied. The material was distributed on groups, depending on constitution type. In preparations taken from people with dolichomorphic structure type have the least sizes (basically width of an aperture), and in preparations taken from people with brachymorphic type of a structure — the sizes the greatest.

Results and Discussion. In 54.84% in the field of lateral intervertebral channels of lumbosacral department of a vertebral column are found out — intraforaminal ligaments. 50% — mesomorphic addition type, 26.47% — dolichomorphic and 23.53% — by brachymorphic. Histologically found out formations have copular structure. The copular apparatus reduces free space round the vessels which are passing in the intervertebral channel, in limits from 44.97 to 79.84% that can lead to a compression of the contained intervertebral channel both at a trauma, and at is degenerate-dystrophic diseases of a backbone. The worst conditions for contents of intervertebral channels are framed at people with dolichomorphic type of a structure of a body in the presence of plural intraforaminal ligaments.

Conclusions. Such combination based on results of given research, can meet at 25.5% of people with dolichomorphic type of a structure of a body.

BIOMECHANICAL METHODS IN A COMPLEX ASSESSMENT OF THE MORPHO-FUNCTIONAL STATE OF THE HUMAN SKELETON IN NORMAL AND PATHOLOGICAL CONDITIONS

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Key words: *skeleton, anatomy, biomechanics, trauma*

Aim. A complex study of the structure and biomechanical properties of tubular bones, ligaments of the spine and individual joints of the human of was carried out.

Material and Methods. Investigation of the structure and biomechanical properties was carried out on fetus, newborns and adults. Functional biomechanical tests were evaluated in healthy and patients with a fracture of the diaphysis of tubular bones. In the study of morphology, anthropometric, anatomical and histological methods of investigation were used. To assess the biomechanical parameters of the ligaments, elastic-strength properties were studied. The mechanical properties of the bones were studied by analyzing the responses of functional biomechanical tests. To do this, the tubular bones were externally affected by the sound frequencies.