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The Significance of the Pathomorphological Structure of the Spine in the Treatment of Lumbar Spondylitis

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Abstract In this scientific study, dedicated to the study of the pathomorphology of spinal injuries, a section of the vertebral bone consisting of the articular surface, the vertebral disc, the fibrous disc, and the nucleus accumbens was taken. Topographical and morphological study of the upper parts of the spine can be an effective method of treating lumbar spondylitis. The microscopic structure of the topographical and morphological condition of the lumbar disc and the lumbar disc was studied, and it was highlighted that this scientific work corresponds to the priority directions of scientific research of the Republic of Uzbekistan. The surface of the fibrous tissue is surrounded by a layer that is twice as thin compared to the thick part. The topographical differences of spondylitis were found in different parts of the bone tissue, which makes the histological structure microscopic. proved itself when viewed topically.

Keywords Spine, Symphysis, Spondylitis, Bulging disc, Fibrotic disc, Nucleus accumbens, Protrusion, Hernia

1. Introduction

According to literature, about 80% of people have complained of back pain at least once in their life [1,2]. Many studies have been conducted to determine the causes and mechanisms of spinal pain, but there are still many unsolved and controversial issues. The problem is also very urgent because it affects the most able-bodied part of the population. According to local literature statistics, approximately 40% of back pain is associated with osteochondrosis of the spine [1,2].

The spine is the basis of the musculoskeletal system, which is one of the most important organs in human life. The development of lumbar spondylitis of the spine in various professions is considered an occupational disease [3]. There are such professions that it is impossible to eliminate this disease. In today's information and computer technology era, the working conditions and activities of many professions lead to a decrease in mobility. In people's way of life, such low movements and heavy loads in work activities lead to an increase in spine diseases. The complexity of the spine area and the diversity of its structure in various locations require the creation of a treatment algorithm. For this, it is necessary to determine the histological structure with a complete analysis of the morphology and topography of the spine [4,5]. In order for this nutrition of the vertebral disc to be normal, it leads to strengthening only when there are movements [6,7,8] and as a result, the protrusion of the spine causes a hernia. In this, the change in the structure of the lumbar disc aftershocks and various loads, i.e. the violation of its elasticity leads to the thinning of the fibrous ring and its rupture. The load begins to exceed the norm observed in patients. as a complication, the joint surface of the bones undergoes deformation [9].

Now, as a result of the above loads, over time, the disc becomes dehydrated and malnourished, which means that the tissue of the fibrous nucleus does not return to its original position. Disc herniation causes inflammation of the disc as a result of deformation of the fibrous tissue, which leads to discitis, and then to the development of spondylitis [10,11,12].

Diagnosis and treatment based on the pathomorphology and topography of lumbar spondylitis, which is a degenerative disease of the spine, will play an important role in improving people's lifestyles in the future.

2. Material and Examination Methods

To study the topography and morphology of the spine, we used the material obtained from people who died from various diseases between the ages of 30 and 65 in the autopsy department of the Republican Centre for Pathological Anatomy of the Ministry of Health of the Republic of Uzbekistan between 2019 and 2022. It is considered to

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determine the characteristic changes in the disc with the age of people and various pathological changes. The main purpose of our study of the autopsy materials is to study the microscopic structure of the morphological processes with the topography of the spine protrusion and hernia. was achieved, for this purpose, sections were cut from the upper and lower surfaces of the vertebral bone, adding 2-3 mm. makes it possible. Topographic sections were prepared from the obtained materials and we used a light microscope for examination. The conclusions of the histological data obtained for examination were studied and analyzed.

Now, if we the mechanism of this process, the loads directed to the spine are mainly applied to the two surfaces of the back part of the human spine, i.e. the axillary growth of the bone. In this case, the correct proportionality of lifestyle changes with old age in spine diseases, that is, endocrinological diseases are more common at this age and lack of activity. When studying the reasons why spinal spondylitis is less common in old age, the results of histological examination clearly showed that the fibrous layers of bone and disc are not fully supplied with blood vessels, which are developed only through diffuse nutrition. In this process, the fact that movement is required for nutrition, and the lack of activity of elderly people leads to the failure of the disc function and the loss of its amortization.

When examining the contingent of patients aged 50 to 65 years, the filling of the islets in the cartilage tissue with calcined substance leads to the loss of elasticity of the fibrous tissue, which occurs in patients of this age with spondylitis. In the layers of the upper articular surface of the spine, it was found that the dense cartilage tissue connecting the bone to the bone is very thin, it was found that these conditions lead to deformation of the joint surfaces as a result of various loads as young people get older.

During the histological analysis of the pathomorphological changes of lumbar spondylitis, protrusion, and hernia of the spine, most of the monocytic, histiocytic osteoblast and chondroblast cells are collected in the bone marrow islands adjacent to the vertebral symphysis, and they are directly connected to the bone and articular tissues, renewing the composition of these tissues. Vertebral space the upper and lower parts of the disc are connected to the surface of the spine by a dense disc. The composition of the disc tissue is arranged in a parallel circle, between them are occupied by small chondrocytes, and in some places, there are foci of calcinosis. The histological structure of the intervertebral disc is observed to be different in the topographical areas of the intervertebral disc. Fibrous bundles are arranged in a circle in the outer dense layer of the disc, radially in the inner layer, and in a random direction in the fibrous layer close to the nucleus. In all these processes, the pathomorphology of the bone and the disc is examined histologically conclusions were studied based on the microscopic structure.

3. Results

When we analyze the pathomorphological changes of lumbar spondylitis of the spine, the surface of the bone joint and the vertebral disc develop differently in all vertebrae, which requires the correct assessment of pathological processes. The conclusions of the conducted scientific research have shown that the pathomorphological changes are related to age, and lifestyle and determined that individual approach to work should be determined. Diseases of the spine occupy a high place among the diseases of the locomotor system, the main reasons for which have been mentioned in the relevance of the topic. The increase in spondylitis of the spine is the increase in the functional life conditions of people in the next 10 years, i.e. the decrease of the required level of mobility and the low mobility of the elderly.

All of these damage the nutrition of bone and herniated discs, leading to the outbreak of diseases. A protruding and herniated disc is a disease of people living in modern conditions, and it requires the development of appropriate modern treatment methods and an individual approach.

In the treatment of spondylitis and hernia of the spine, it is necessary to rely on the clinical morphological conclusions of the bone and lumbar disc, for this, an individual approach to each patient and diagnosis and treatment should be carried out based on this. As a result of these tensions, we found out that the pathomorphology has changed from the norm. And together with this, we found out that growing age leads to irreversible pathological changes in the bone joint part and the disc.

4. Conclusions

All these examination conclusions determined the need to clearly define the pathomorphological changes in spinal spondylitis and hernia depending on the localization of the process and thus to develop a treatment algorithm. A complete study of the pathomorphological characteristics of spondylitis and hernia of the spine leads to the identification of the causes of the disease, the correct analysis and the correct selection of the treatment algorithm for the clinicians. Therefore, perfect diagnosis and treatment in modern methods play an important role in human health.

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