Changes in the Yellow Ligament in Degenerative Diseases of the Spinal Cord

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ABSTRACT

From 2019 to 2022, 140 patients with degenerative diseases of the spine were examined at the neurosurgical department of the clinics of the ASMI. During surgery, samples of the ligamentum flavum were taken for pathomorphological examination and to study the underlying changes.

This study studied the pathomorphological changes that develop in the yellow ligament of the spinal canal in all types of degenerative diseases of the lumbar spine. Yellow body fragments covering the posterior border of the spinal canal were taken as Material. The results show that in some degenerative diseases of the lumbar spine, the yellow ligament has only undergone hypertrophy, while in others it has developed dystrophy, limescale, and in others it has ossification and deformity. Developing after hypertrophy, thickening, degenerative and inflammatory diseases of the yellow ligament of the spine, it begins with an increase in cysticitra cells around the blood vessels and in the intermediate tissue. Hypertrophy of the yellow ligament shows a sharp increase in collagen fibers, the development of the fibroelastosis process, the breakdown and destruction of elastic fibers, and a decrease in the amount of bialn.

Keywords: Spine, yellow ligament, degenerative diseases, morphology, calcinosis, limescale.

In the composition of neurological diseases, the proportion of degenerative damage to the spine reaches 52%, of which 81% is located in the lumbar-spine part of the spine. The main target of pathomorphological extensions in degenerative-dystrophic diseases of the lumbar vertebrae is the degeneration of the vertebral ligature, intervertebral joints, discs covering the adjacent vertebrae. According to experts, 22-65% of the adult axoli layer during the year experiences at least one episode with degenerative-dystrophic diseases of the spine, and 80-84% of patients seek medical attention with complaints of back pain at least once [10]. It should be noted that UPDDK often affects working people between the ages of 25 and 55, and the severity of the manifestation of degenerative diseases depends primarily on the type of professional activity [65; 113; 165; 174]. The high costs of treatment and the high risk of disability put a heavy economic burden on society around the world, including on Uzbek medicine. Every year, nearly 8% of the working-capacity population loses their ability to work due to pain in the spine, and 40% of the total number of cases of loss of working capacity are associated with pain in the lumbar region [14]. The main causes of the appearance of clinical symptoms in degenerative spinal diseases are: narrowing of the spinal canal, segmental instability, and impaired biomechanics of the operated segment. Osteochondrosis is characterized by primary processes of dystrophy, degeneration and destruction of the intervertebral disc (ud), secondary damage to the spinal complex of the spinal cord segment

(uxs), followed by damage to the spinal body leading to general damage to all elements of the spinal cord. According to various researchers, despite the enormous possibilities of conservative treatment, between 5% and 33% of patients are in love with the treatment of degenerative-dystrophic changes in the spine through the jarrahlik pathway.

The purpose of the study: to identify the pathomorphological changes that develop in all tissue structures related to degenerative-dystrophic diseases of the spine in the lumbar region and, taking them into account, to study and evaluate the effectiveness of the results of surgical methods used in the treatment.

DESCRIPTION OF CLINICAL MATERIAL AND METHODS OF EXAMINATION

In order to fulfill the specified tasks, in the neurosurgical Department of the clinic of the Andijan State Medical Institute, the clinical material of 140 patients with degenerative dystrophic diseases of the lumbar vertebrae from 2019 to 2022 and surgically treated, tissue fragments of the spine obtained during the surgical procedure were taken for examination in clinical-morphological methods. (See Table 1

Table 1. Types of degenerative - dystrophic diseases of the lumbar region of the spine and the number studied.

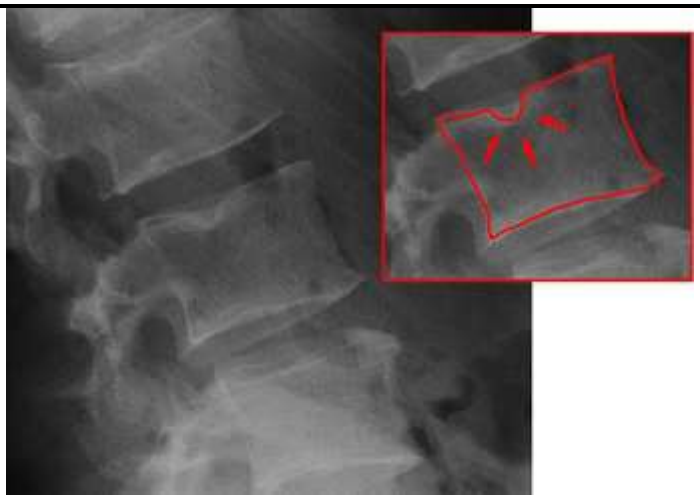
№	Forms of the disease	Number of patients
1	Complications of osteochondrosis disease (protrusion ,hernia)	46
2	Schmorl hernia	26
3	Spondylesis	33
4	Spondyloarthrosis	35
	Total	140

All 140 patients clinical neurologist, X-ray and MRI examinations conducted in Business control of bulgan.

Invertebrates disc churrasin ododiy radiograph disease can only be corrected by directly characters: bhujim erygin Khanjar formajid coiling and segmented meat invertebrates are silenced by 3-4 mm up; the depth of rengen image anaturta is exactly the same, because issues of cooperation between

1. painting. Osteochondrosis of the lumbar vertebrae simple radiologist image.

Schmorl churrasini X-ray description-X-ray Schmorl umurtkalar hernia discining the central part of the mole due to tochnadi. Radiogram umurtqa bir segmentin Yukori and berkituvchi platinskalarind with a clear pattern.

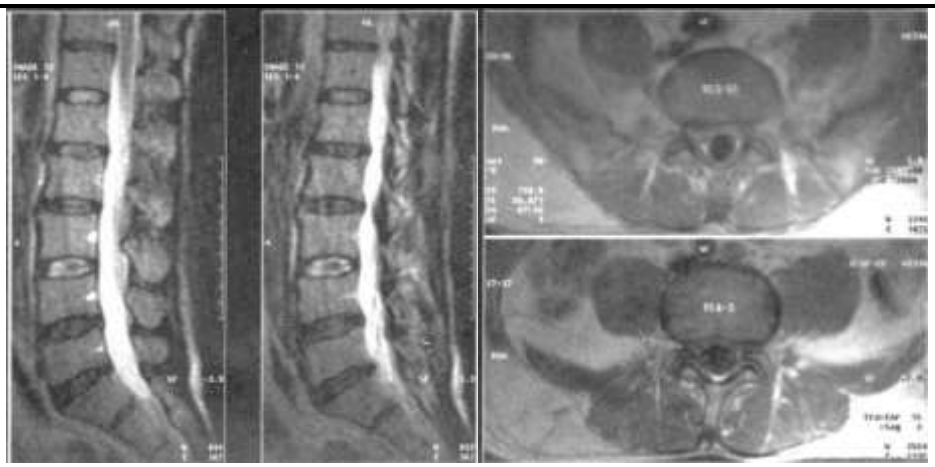


2. Image. Degenerative extensions of the vertebrae in the X-ray image.

One of the degenerative-dystrophic diseases of the lumbar vertebrae Spondylesis disease maxillary disorders of the anterior parts of the intervertebral disc and the anterior transverse ligament are observed, while in the case of X-rays osteophytes can be seen bone tumors; sometimes narrowing of the joint crack is observed, bone bumps are not rolled around the spine. Osteophytes, on the other hand, exit the spinal cord.

3. Image. Kurinization in X-ray imaging of osteophytes in vertebral bodies.

All 140 patients who were in our observation with osteochondrosis of the lumbar vertebrae underwent an MRI examination.



4 picture. Gram of MRI in order T1 pulpose nucleus in normal position 50-60 m/sec. (the pulpose core is indicated by an arrow).

Figure 5. In order T2, the central part of the nucleus of the pulp is the L4-L5 disc hernia, the rate of impulses is 120-140 m/sec (the central part of the nucleus of the pulp is indicated by an arrow)

Based on the results of the tests performed, Xol patients were culled the types of surgery on the cuticle: arcotomy, hemilaminectomy, and extended hemilaminectomy.

The types of operative treatment of degenerative-dystrophic diseases in the lumbar sac and the technique of performing are expressed in the figure below.

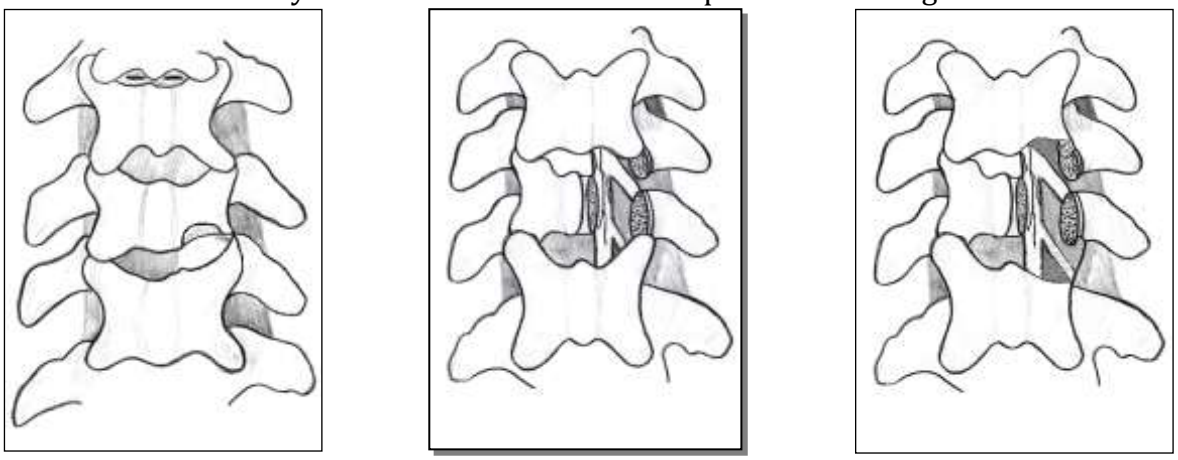


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Figure 6. Types of surgical procedures performed: (a) arcotomy + discectomy + foraminotomy; (B) hemilaminectomy + discectomy + foraminotomy + root canal decompression + ligamentectomy; (C)

extended hemilaminectomy + discectomy + foraminotomy + root canal decompression + ligamentectomy.

The tissue fragments obtained during the surgical procedure, including the thoracic disc and its fibrosis curtain , the cartilaginous part of the spine and the Schmorl hernia, the bulging thoracic disc part in the form of protrusion, the hernia and its sequestered part, the osteophytes of the spine, all structural units of the arch-shaped joints in spondyloarthrosis, including the thoracic, the fibrosis

During the operation, the pathomorphological changes of the macropreparations obtained were knocked out in the alloy:

The following information was obtained when we studied the Sarik boglam tissue in a microscopic examination. It has been found that this tissue consists of collagen and elastic fibers that lie parallel to each other

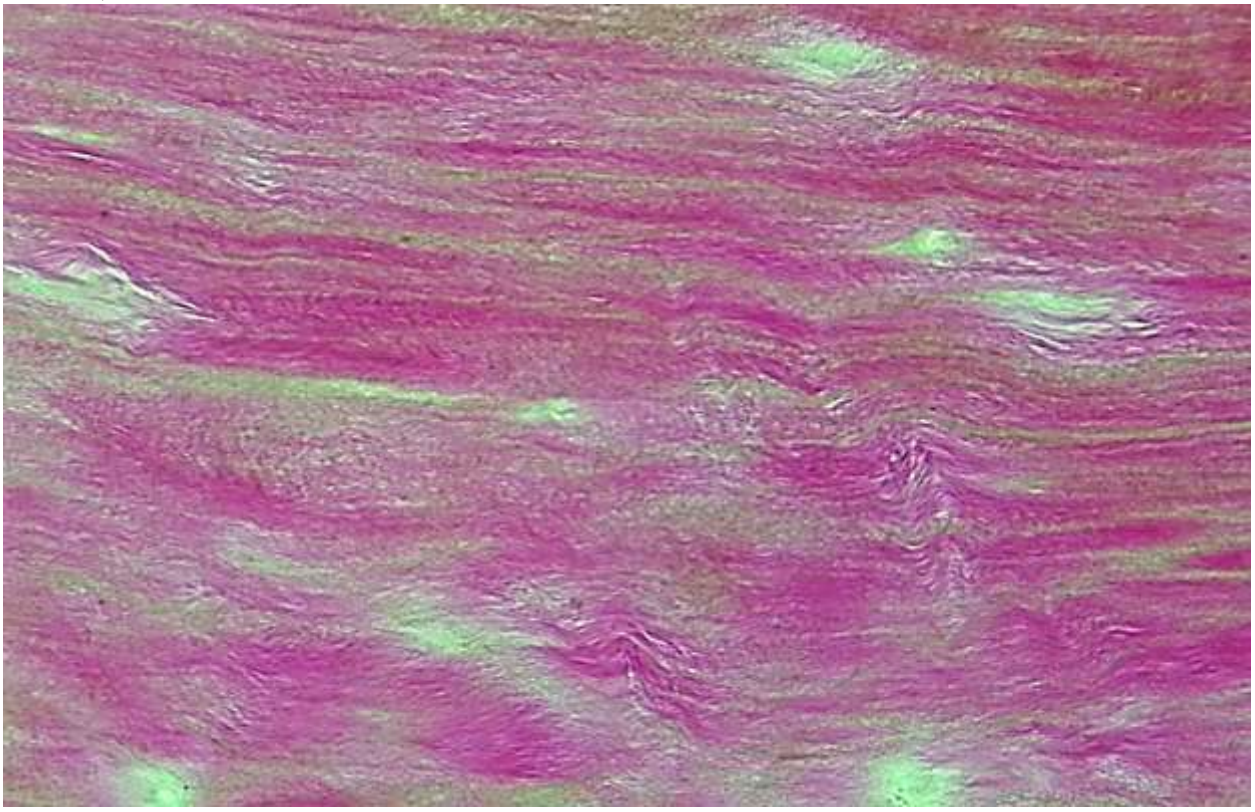


Figure 6. The spine is a yellow band. The consistency of collagen and elastic fibers is located parallel to each other. Paint: G-E. increase: 10x10.

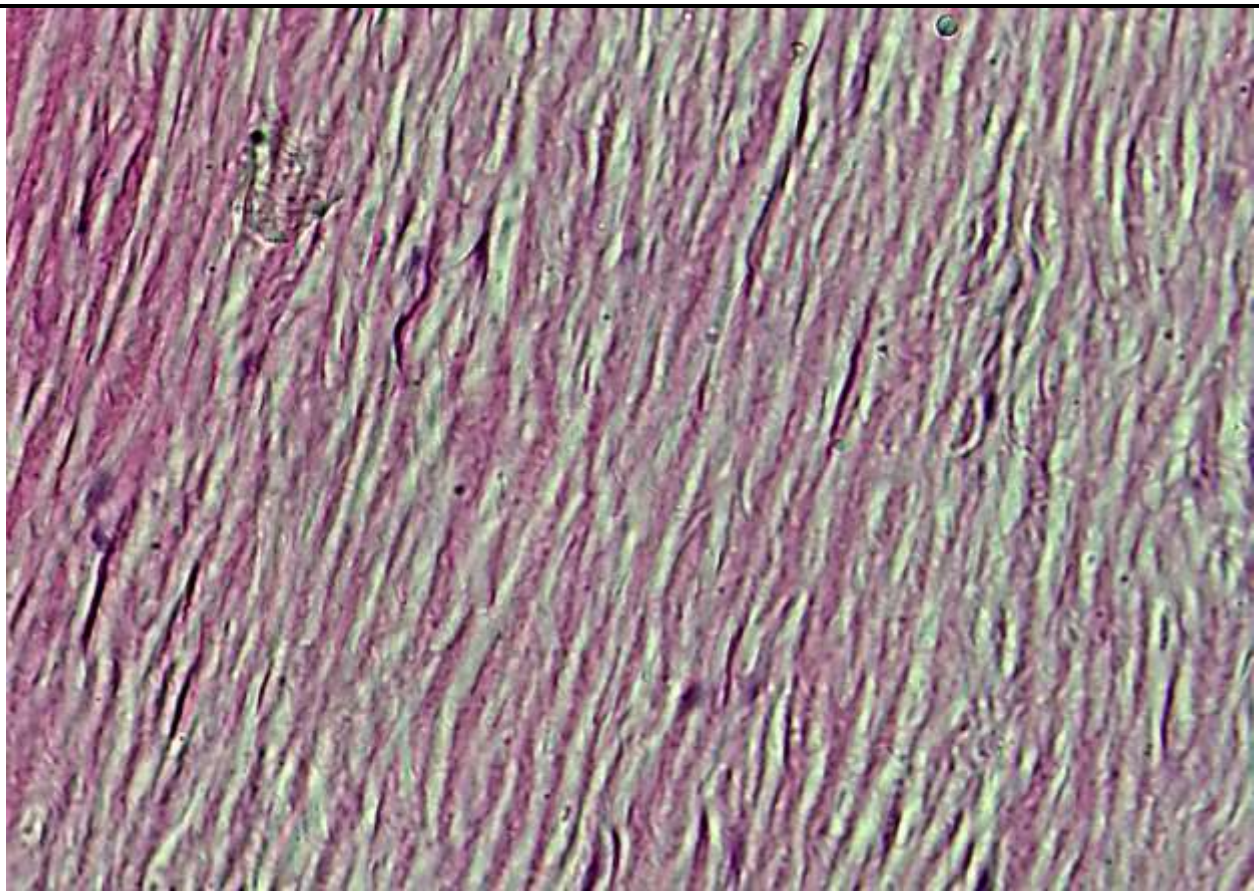


Figure 7. The spine is a yellow band. Collagen fibers are located with a relatively trembling consistency. Paint: van-Gison method. increase: 10x40.

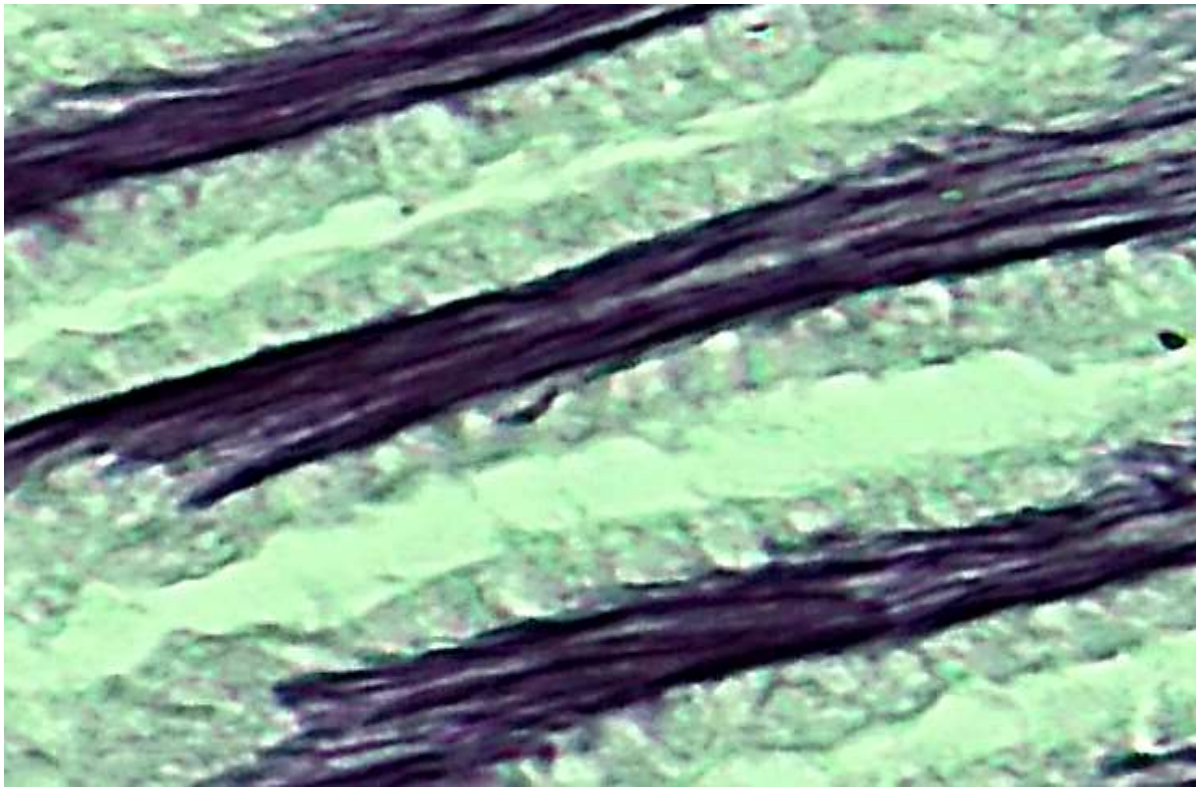


Figure 8. The spine is a yellow band. Elastic fibers are located in the form of dense Tufts, which are located separately from each other. Paint: Weigert method. increase: 10x100.

When we studied the yellow connective tissue in a microscopic examination, the following information was obtained. It has been found that this tissue consists of collagen and elastic fibers that lie parallel to each other (figure 4.2.1). Collagen fibers have been found to have produced relatively larger tutams and to have been colored reddish with eosin. They are found to contain oblong-shaped fibroblasts, with the nucleus also joining the fibrous Tufts from their elongation. Elastic fibers are found to be relatively light-stained in the hematoxylin-eosin dye and to be located in the form of an intermediate between collagen fiber tutams. When the van-Gison staining method used to detect collagen fibers is used, it is found that the fibers in the yellow bond are colored red with picrophoxin, and they consist of Tufts in a relatively shaken State (figure 8). When applying the dye Weigert method, which identifies elastic fibers, it is observed that the elastic fibers in the yellow body are located with the tufts of relatively large structure separated from each other (figure 9).

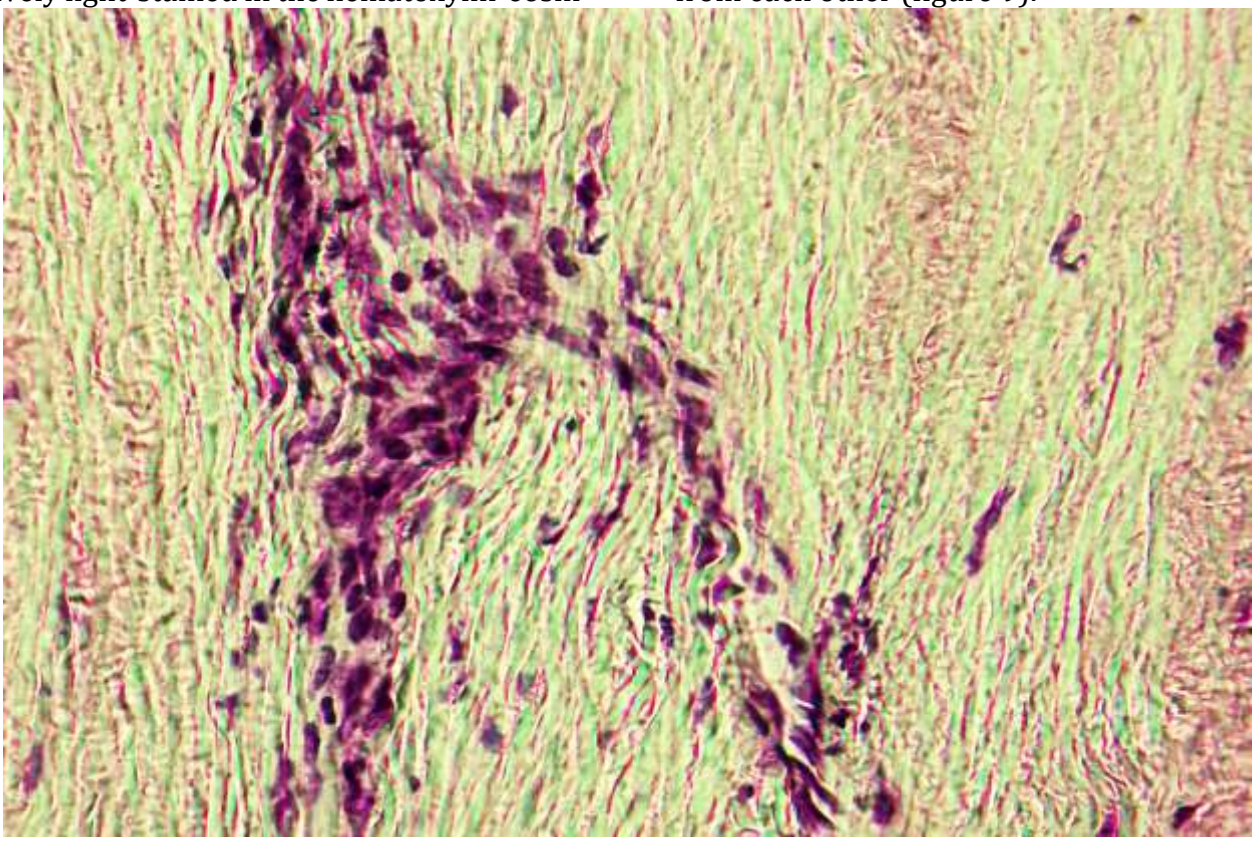


Figure 9. Yellow ligament hypertrophy. Proliferation of histiocytic cells with foci and diffuse proliferation. Paint: G-E. Increase:10x40.

Like This:

- Yellow ligament hypertrophy develops anywhere in the spine, in most cases in the lumbar area, causing an outbreak of chronic diseases associated with narrowing of the spinal canal, paralysis of the limbs, dystrophy of the muscles of the shoulders, arms and legs, the autonomic nervous system.
- The yellow ligament of the spine begins to develop after hypertrophy, thickening, degenerative and inflammatory diseases, with an increase in cysticidal cells around the blood vessels and in the intermediate tissue.
- Hypertrophy of the yellow ligament is manifested by a sharp increase in collagen fibers in its composition, the development of the fibroelastosis process, the breakdown, destruction of elastic fibers and a decrease in its amount.

Patomorphological changes of the disc in intervertebral disc protrusion and hernia: all examination conclusions determined that depending on the localization of the process, it is necessary to accurately determine the pathomorphological changes in spinal protrusion and hernia, and thus develop a treatment algorithm.

Clinical morphological changes in the caudal disc, with different vertebral vertebrae being different, have been anicalized that, as a result of these voltages, their pathomorphology has changed from normal. And together with this, we found that growing age leads to irreversible pathological changes in the disc.

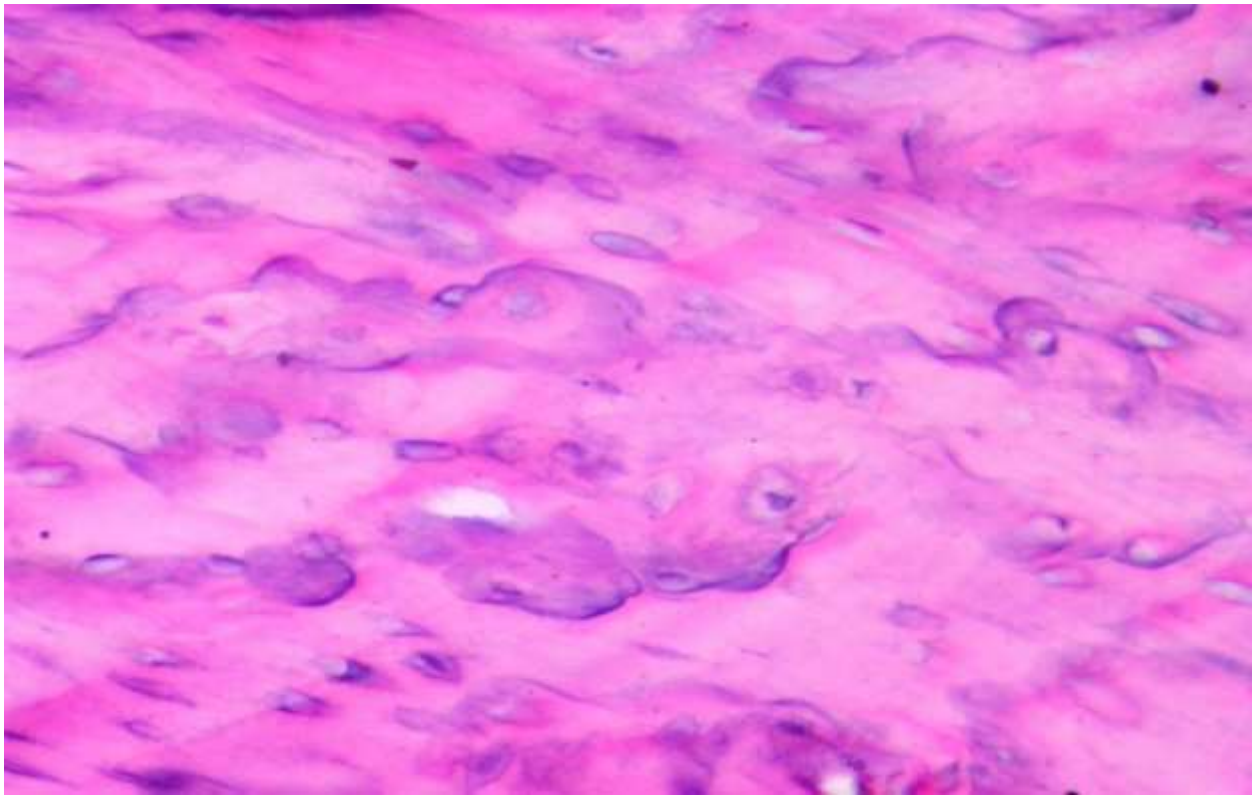
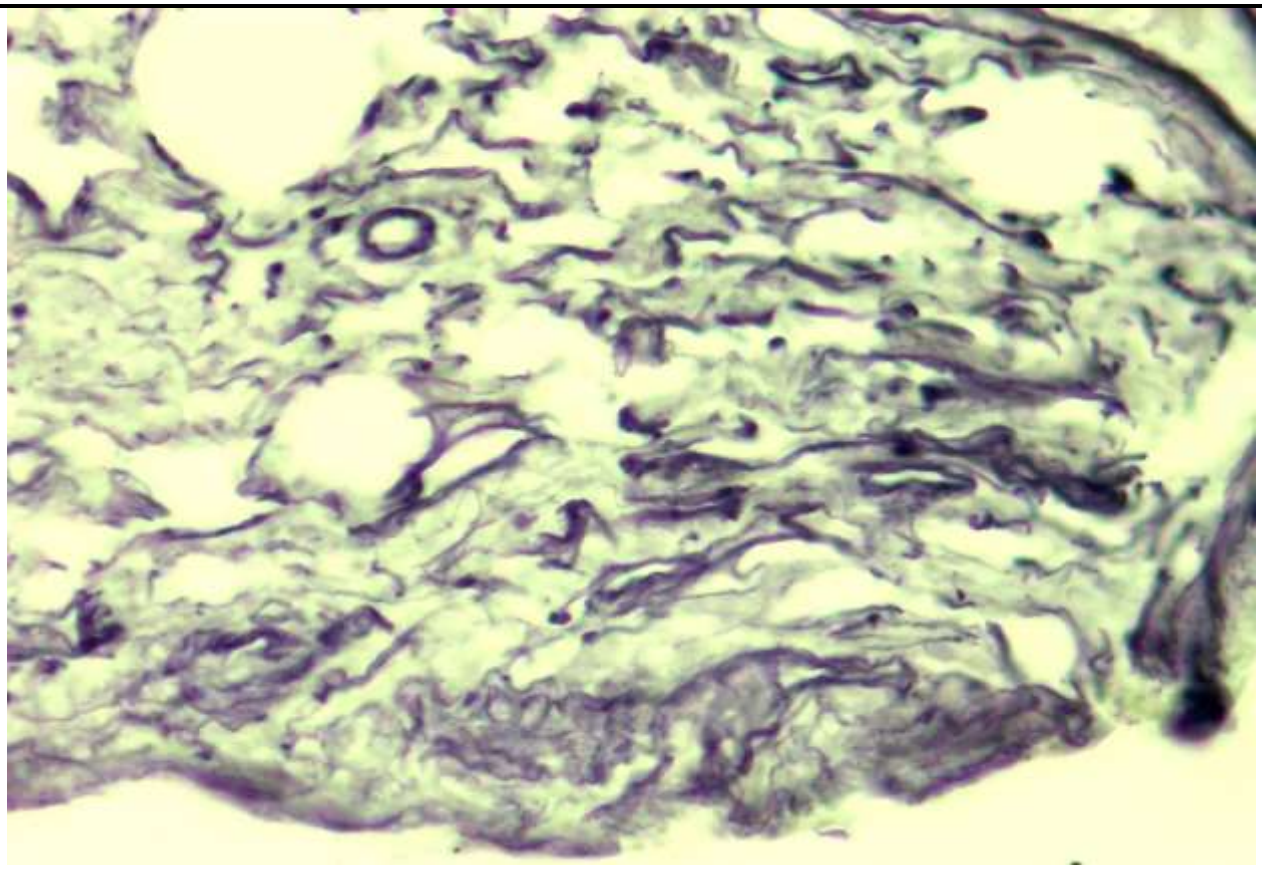


Figure 10. In the vertebral hernia, the toga tissue is located betartib. Paint: G-E. increase: 10x40.



Draw 11.The elastic fibers contained in the spinal hernia are in a reduced, fragmented and trembling state. Paint: Weigert method. increase: 10x40.

A pathological process develops as a result of a violation of the elasticity of the mountain disk of the spine leads to the thinning of the collagen inner layer of the mountain people. As a result of increasing loads on the spine from the norm, the wart begins to shift from the place of nuclear tissue, in which the nucleus does not return to the place of tissues by touching the inner wall of the vertebral column. It is dressing dehydration process in the same area caused by a factor that is dressing as a result of irreversible loading. Nutritional disorders in tissues prevent the return of the dirilic nucleus to its proper position, and the disc changes its normative morphological state, resulting in a thinning and rupture of the fibrosis floor. This determines that clinical pathomorphological processes cause a herniated disc of the spine. When we examined morphological changes in patients with a hernia of the spine in people between the ages of 30 and 50, it was found that disc damage was caused by asoson strong loadings, in which the elasticity of the vertebral disc was maintained. In patients of this age, there was little dehydration of the spinal disc in the metabolism, the reason is that people aged 30-50 years only experience seizures and seizures with strong loads. In a histological study of the vertebral disc of these patients, it was found that their sacs, which were immersed in one another in bone and vertebrate tissue, contained a non-fibrous chondroid substance in the form of separate variegated islets. The occupation of relatively large chondrocytes in the mountain tissue around these islets contributes to the re-establishment of the disc's disc configuration. As some of the islets become absorbed over time, the islets become smaller and cause calcinose, marking the aging of the mountain disc. When a contingent of patients aged between 50 and 65 years is studied, the overflow of islets in the tissue with calcinosylated substance leads to a loss of elasticity of the fibrosis khalqani, which occurs in patients of exactly the same age. In the upper articular surface floors of the spine, Ham thinness (figure 4.3.4) of dense tuberous tissue attached to bone and bone was found, which was found to cause deformity of the articular surfaces by various loadings as ham ages.

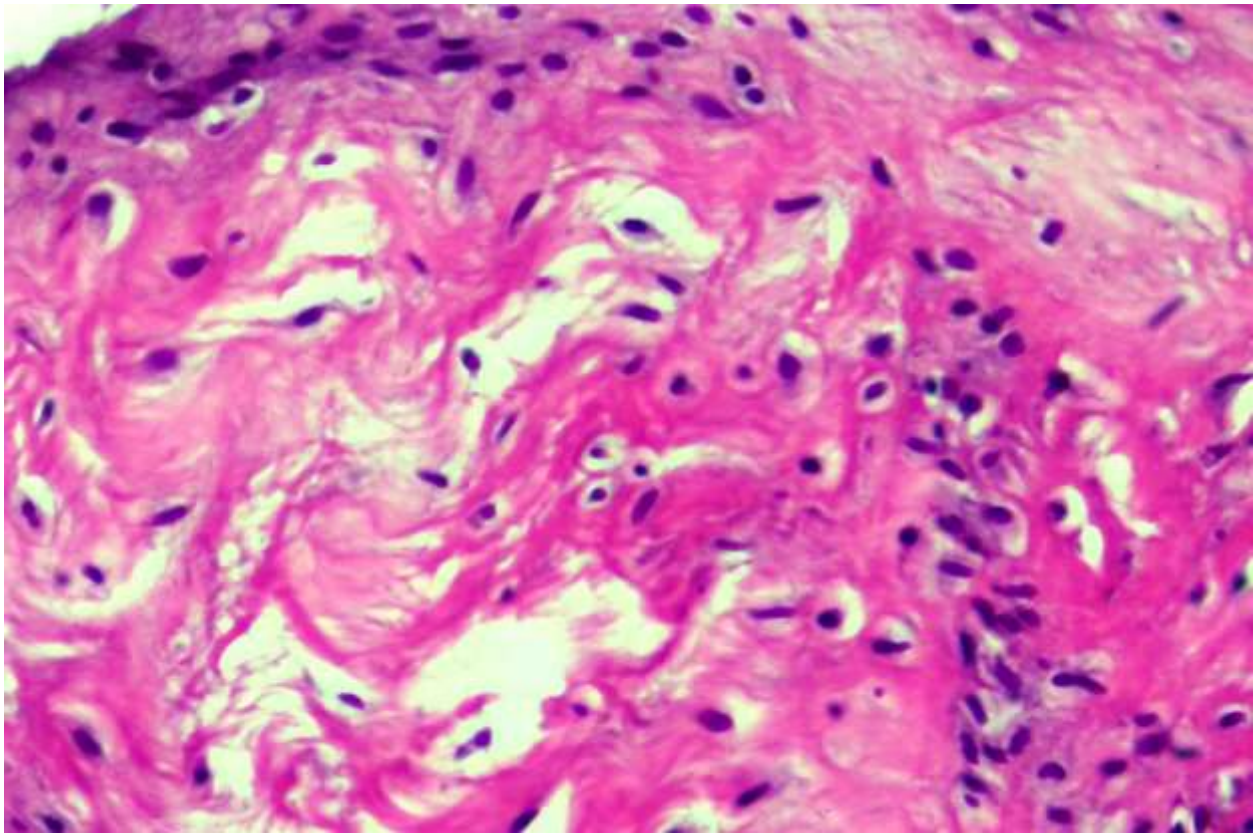
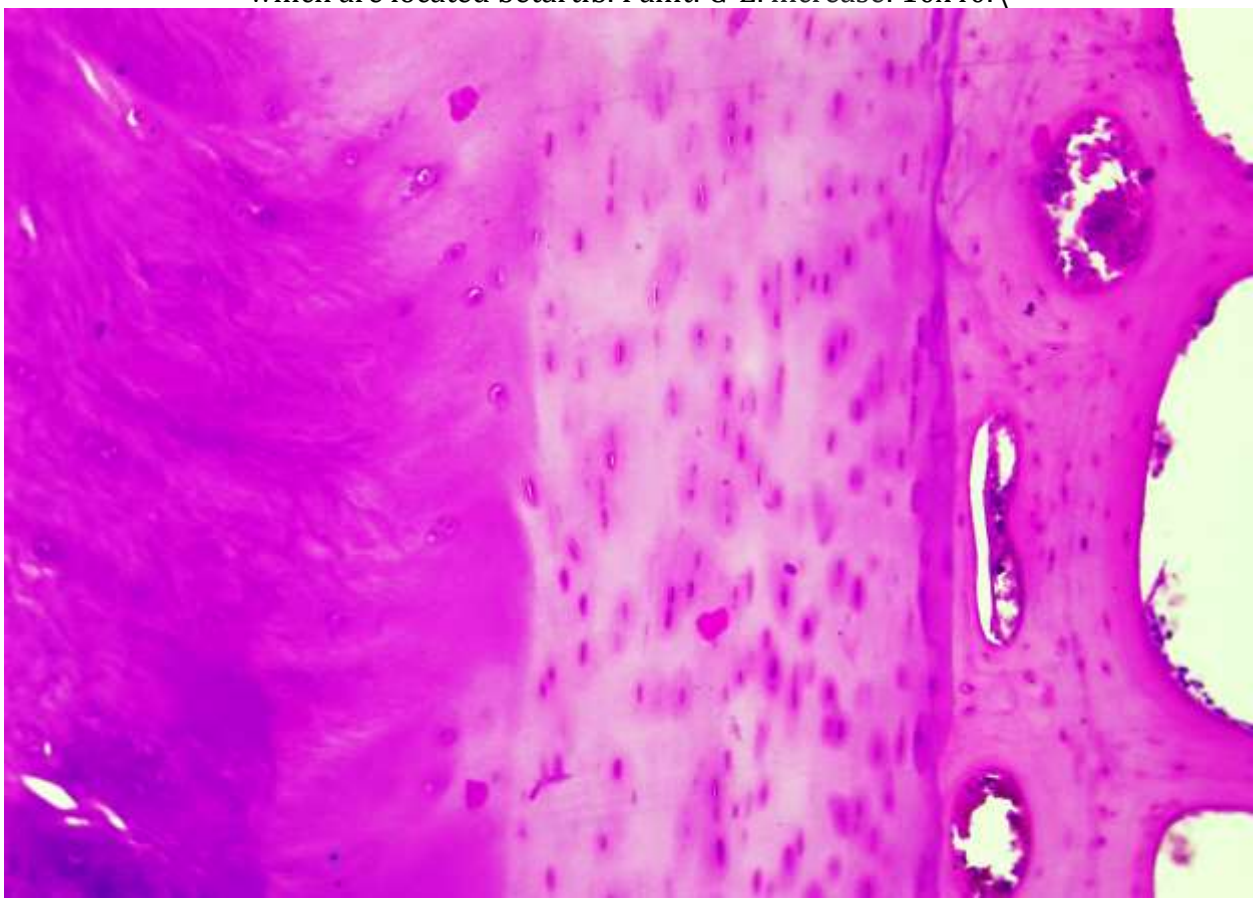


Figure 12. The presence of a chondroid substance in the structure of the spinal hernia, the fibers of which are located betartib. Paint: G-E. increase: 10x40.\



Draw 13. Thinness of dense lumpy tissue attached to the bone and bone on the floors of the upper joint surface of the spine. Paint: G-E. increase: 10x40.

Thus, it became known that it is necessary to correctly assess the clinical morphological changes in the protrusion and hernia of the caudal disc. Through this, excellent diagnosis and treatment in modern ways, a niche for human health is occupied.

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