

The Possibilities of Mri in the Establishment and Diagnosis of Lumbar Vertebral Stenosis

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Annotation. This article highlights the work devoted to the study of the possibility of MRI in the diagnosis of lumbar vertebral stenosis.

Keywords: MRI, tumor, protrusion, stenosis.

According to the World Health Organization (WHO), "back pain" is the cause of the second highest number of visits to a doctor and the third place among the reasons for hospitalization.

Among neurological patients, 80% of patients are patients with degenerative-dystrophic diseases of the spine. "Currently, degenerative spinal canal stenosis is one of the most common causes of temporary disability among people over 45 years of age." At the same time, lumbar localization of degenerative lesions occurs in more than 60% of patients.

One of the most pressing problems of medicine today is the fact that lower back pain inconveniences patients and causes many problems in diagnosis and treatment. At the same time, the quality of life of patients worsens and disability increases. The solution to these problems is an early and accurate diagnosis of the disease. To solve this problem, we need a modern tomography method.

Since the first days of independence of our country, systematic measures have been taken to organize a completely new, high-quality medical care for the population, effective models of the healthcare system are being introduced. As a result, positive results have been achieved in improving the quality of diagnosis of various diseases of the spine through the introduction into clinical practice of the latest radiation diagnostic systems, such as magnetic resonance imaging (MRI) and multispiral computed tomography (MSCT), which allows for a detailed study of various diseases of the spine.

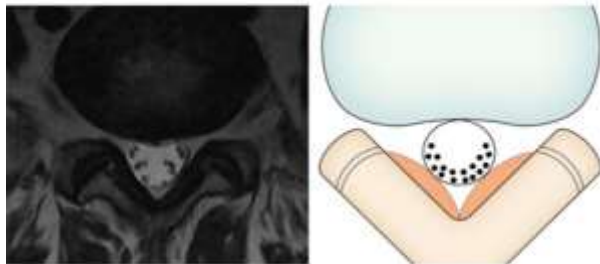
Today, there are a number of problems in the healthcare system, including radiation diagnostics, despite targeted measures.

The Action Strategy for the five priority areas of development of the Republic of Uzbekistan for 2017-2021 sets tasks for the development and improvement of the system of medical and social assistance to ensure a full life for pensioners, the disabled, lonely elderly and other vulnerable groups. Accordingly, the study of the clinical and functional changes of the spinal cord in spinal canal stenosis and the optimization of medical care is one of the relevant areas of research.

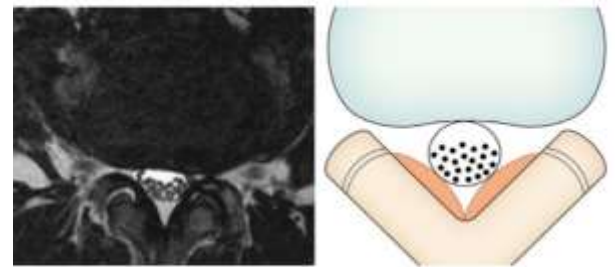
To date, the problems of diagnosis of lumbar vertebral stenosis as a result of degenerative-dystrophic diseases of the spine retain their importance not only in medical, but also in socio-economic aspect. According to WHO, 90% of people have experienced back pain at least once in their lives.



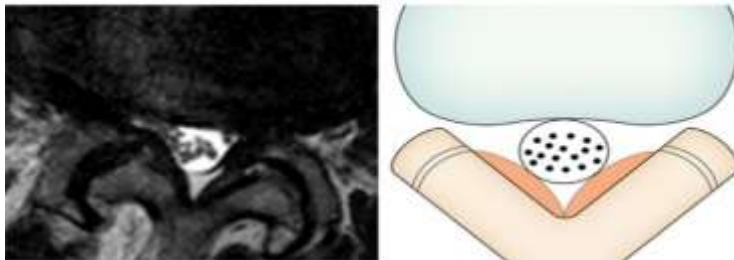
Schizas classification
Grade A2: no or minor stenosis



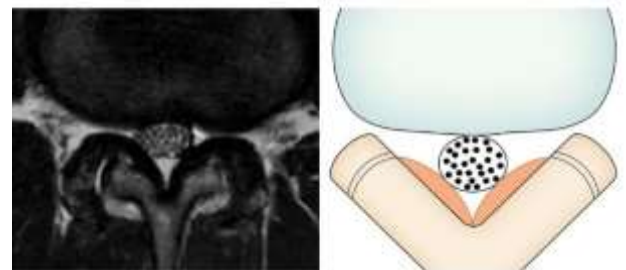
Schizas classification
Grade A3: no or minor stenosis



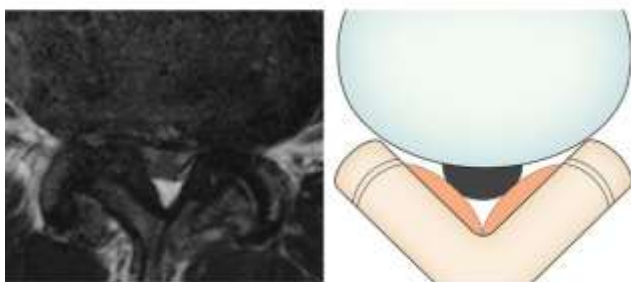
Schizas classification
Grade A4: no or minor stenosis



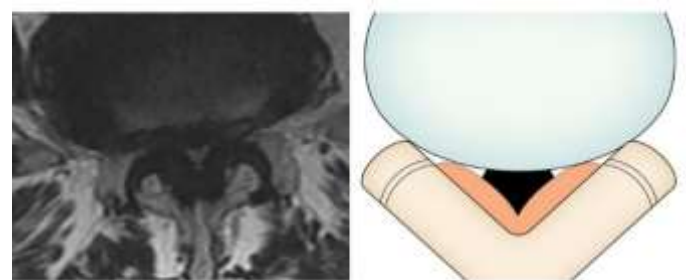
Schizas classification
Grade B: moderate stenosis



Schizas classification
Grade C: severe stenosis



Schizas classification
Grade D: extreme stenosis



Degenerative processes of the lumbar vertebral segment, such as protrusion of the intervertebral disc, antelisting, retrolisting and laterolisting of the vertebrae, osteophytes of the vertebral bodies and facet joints and other intracanal spinal pathologies lead to a decrease in the size of the spinal canal, i.e. to the formation of lumbar vertebral stenosis. To understand the causes of the development of lumbar vertebral stenosis and the principles of its diagnosis, it is necessary to study the basics of the normal anatomy of the lumbar spine. Comparing the above-listed pathological condition of the lumbar spine with the norm, the severity of lumbar vertebral stenosis is determined.

With all the variety of clinical manifestations of lumbar vertebral stenosis in modern clinical practice,

as a rule, their diagnosis is carried out by methods of radiation diagnostics. Lumbar vertebral stenosis has specific X-ray, computed tomography (CT) and magnetic resonance imaging (MRI) signs. With the advent of high-tech research methods (CT with CT and MSCT, MRI), there is an increase in the quality of diagnosis, but many issues of differentiation of individual variants of lumbar vertebral stenosis remain unresolved. The problems of early, reliable and at the same time non-invasive diagnosis of central lumbar vertebral stenosis are far from their final solution.

Researchers have no consensus on many metric parameters of central stenosis. The study of these problems with spinal pathology is the most urgent task, it requires special knowledge and its solution is the main task of a specialist vertebrologist.

The aim of the study was to establish the normal and pathological values of bone and soft tissue structures of the lumbar spine using the possibilities of methods of radiation diagnostics and comparing the values of pathological structures with the norm, to develop an improved version of radiation diagnostics allowing to carry out pathogenetic characteristics of lumbar vertebral stenosis. The object of the study was 45 patients (30 patients and 15 persons of the control group). The patients were divided into the following groups: 20 patients with degenerative-dystrophic diseases of the lumbar spine causing central stenosis; 10- with intracanal volumetric formations causing central stenosis.

We, using the MRI method, investigated the normal anatomical dimensions of the parameters of the contents of the spinal canal and intervertebral disc. They were the starting point for comparing them with the pathological parameters of degenerative and other lesions leading to spinal stenosis. The parameters of the contents of the spinal canal and intervertebral disc in degenerative-dystrophic lesions and volumetric formations of the lumbar spine contributing to spinal stenosis were also studied by MRI, the results were compared with the normal values of these structures and the severity of central lumbar spine stenosis was determined.

As a result of our research, we came to the conclusion that, central and lateral stenoses are diagnosed by X-ray method in the late stages, early signs are better recorded by MRI methods. MRI machines are equipped with a special program that improves the determination of the severity of stenoses. In this regard, when choosing methods for the diagnosis of spinal stenosis, preference should be given to the MRI method of examination.

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