RESULTS OF ANALYSIS OF STRUCTURAL CHANGES IN PATIENTS WITH SPIN PAIN, ON THE BACKGROUND OF RUTIN NEUROSURGICAL EXAMINATION FOR THE PERIOD 2021-2023

Abstract: Over the last decade, neuroimaging studies of back pain have been devoted to the study, but most often they give a descriptive character of destructive disorders of the bone system, while for the prognosis, a number of dynamic manifestations of the spinal cord itself (myelopathies), correlation between compression of the myelodural sac, degree of stenosis of the spinal canal, severity and intensity of pain syndrome, differentiation between inflammatory and degenerative lesions, abnormal anatomic findings are still important. Thus, the necessity of neuroimaging in a routine study, analysis of the findings should be studied and the percentage should be statistically determined, as this informativeness remains topical and poorly studied.

Objective of the study. To study the pattern of changes in the spinal cord in patients with back pain and to determine the diagnostic power of neuroimaging to assess the condition in comparison with clinical and anamnestic data.

Material and methods of research. The neuroimaging studies (MRI and MSCT) were studied and conducted in the radiological department of Samarkand State Medical University from 2021 to 2023 in the outpatient and inpatient departments. Totally 4955 neuroimaging studies of lower thoracic and lumbosacral spine were done during this period, 3167 women and 1788 men, aged 20 to 75 years. All patients underwent a comprehensive examination, which included examination by a neurologist (to assess the clinical nature of the lesion and medical history), a neurosurgeon (to assess the severity of the injury), and a physician (to differentiate between somatic diseases). Inferior thoracic MSCT - 187 studies, including 106 women, 81 men; lumbosacral MSCT - 2518 studies, including 1625 women, 893 men. In terms of age, 20 to 30 years old accounted for 22% of cases, 30 to 60 years old 68%, over 60 years old 8(10)%.

Results of the study. The study design is a catamnestic and retrospective study of neuroimaging data of patients with back pain, where the exclusion criteria were re-treatment, only primary treatment. Prior to MRI/MSCT examination, patients were seen by a neurologist, neurosurgeon, general practitioner (in some cases an obstetrician-gynecologist, surgeon), where the main referring factor for neuroimaging was the complaint of back pain. The inclusion criteria for the study group included several indicators: history of back pain (chronicity of pain), risk factors for the disease (deficit of movement, office workers, where the duration of statistical stress was increased); unaccustomed or habitual physical activity (lifting weights); occupational characteristics (experienced drivers, with a long stay in transport); overweight (up to 100 kg, as the neuroimaging potential required a certain weight limit); history of disease (suffered from COV). The pain symptom is of a nagging nature starting in the spine mainly irradiating to the pelvis and
leg on the inside. Structural changes on MRI/MSCT highlight clear signs of osteoporosis, coxoarthritis. Out of a total sample of 30-60 years old women examined (3060 women) dystrophic-degenerative changes in the lumbosacral region were found according to neuroimaging data in 19% of cases, most of them were determined along the entire spinal level (generalised process type).

**Conclusions:** Neuroimaging diagnostic MRI/MSCT is an important component and informative for patients with back pain. However, the questions of specificity should be taken into account, as for MRI the typical application is the structure of spinal cord, radicular and intervertebral discs; for MSCT the structure of bony system and ligaments, that shows a complementary anatomico-topographic picture.

**References:**