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Rozzokov Dilmurod Togaymurodovich

Yugay Igor Aleksandrovich

Xolboyev Ulugbek Boboyarovich

Surkhandarya Regional Diversified

medical center of neurosurgery

Republican Specialized Scientific Practical

Medical Center of Neurosurgery, Tashkent.

**INCREASING THE EFFICIENCY OF DIAGNOSTICS AND TREATMENT
WITH THE USE OF EARLY ULTRASOUND EXAMINATION OF DAMAGES OF THE
PERIPHERAL NERVOUS SYSTEM.**

Summary: Peripheral nerve injuries, like all injuries nowadays, have several negative complications and consequences in the affected patient's life. As a result of the statistical studies of many authors, the frequency of peripheral nerve damage is 4-11%. Among these injuries, a large number of them are injuries of the median nerve (N Medianus), which is considered one of the reasons for the impairment of the functional state of the working part and the inability to work for a long time, leading to the disruption of human labor activity. kaitarish is considered one of the most relevant aspects of modern medicine

Key words: Nerve. Ultrasound examination. Diagnosis, Injury, Peripheral nerves.

Relevance: Peripheral nervous system injuries caused by various etiologies are among the pressing issues in modern medicine. The main cause of peripheral nerve injuries is trauma. Peripheral nerve injuries account for 1.5-2.5% of all traumas, with the injury rate of the median nerve (N. medianus) ranging between 15-24% among all peripheral nerves. These injuries lead to several problems, including disability, social and professional incapacity, and they significantly impact both social and medical aspects of life.

Research Objective:

The objective of our research is to provide effective treatment tactics for patients with early and delayed (up to 1-3 months) post-traumatic injuries of the median nerve by utilizing MRI, MSCT, and EMG examinations supplemented with ultrasonography. For patients requiring conservative or surgical treatment, early diagnosis and the application of microsurgical interventions are emphasized.

Research Methods:

The study included 40 patients with post-traumatic injuries of the median nerve localized in areas such as the shoulder, forearm, palm, and fingers. These patients were admitted to the departments of neurosurgery, neurology, and traumatology at the Surkhandarya Regional Multidisciplinary Medical Center between 2020 and 2023. The patients' anamnesis, prior treatments (up to 1-3 months), and diagnostic examinations were thoroughly reviewed. Necessary imaging studies, including X-ray, EMG, and ultrasonography, were conducted.

During ultrasonography, both the transverse and longitudinal conditions of the median nerve were compared between the healthy and pathological areas. Normal and pathological findings were contrasted to derive diagnostic conclusions.

Research Results:

The 40 patients were divided into groups based on the time of injury (early: 1-21 days, late: 21-90 days) and the type of nerve damage.

1. Group 1: Total rupture of the median nerve – 20 patients (50%):

Early injuries (1-21 days): 10 patients (25%).

Late injuries (21-90 days): 10 patients (25%).

2. Group 2: Partial rupture or compression of the median nerve – 15 patients (37.5%):

Early injuries: 10 patients (25%).

Late injuries: 5 patients (12.5%).

Ultrasonographic findings were used to assess the anatomical condition of the nerve, identify pathological zones, and measure the extent of nerve damage or diastasis. Surgical interventions such as decompressive neurolysis, neurorraphy, and neurotization were performed based on these results. Postoperative patients underwent medication and physiotherapy for rehabilitation.

Conclusion:

Ultrasound examination plays a vital role in diagnosing and treating early and delayed post-traumatic injuries of the median nerve. It provides clear insights into the physiological and pathological conditions of the nerve and surrounding tissues. This allows for timely surgical interventions like decompressive neurolysis, neurotization, and neurorraphy, minimizing the time lost on ineffective conservative treatments. Early surgical treatment significantly aids patients in returning to a healthy life.

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