

were largest for FoG followed by postural imbalance and falls. The cholinergic medial geniculate body was the most significant predictor region.

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THE FEASIBILITY OF USING LOSS OF “SWALLOW TAIL SIGN” ON 3T – SUSCEPTIBILITY WEIGHTED MRI IN DIAGNOSIS OF PARKINSON'S DISEASE

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Background: Parkinson's disease (PD) is the second most common neurological disorder and the most prominent movement disorders. However, it is sometimes challenging to distinguish between PD and other conditions, especially in the beginning stage of the disease. Loss of “swallow tail sign” (STS) which is the healthy appearance of nigrosome-1 on iron-sensitive magnetic resonance imaging (MRI) has been recognized at a helpful marker in the diagnosis of PD

Methods: This is a prospective cross sectional study. We recruited two groups of patients with and without PD. Those without PD who came to the hospital because of other conditions were examined by a neurologist specializing in movement disorders to make sure that they did not have Parkinsonism. Both groups of participants underwent a routine high resolution 3T – susceptibility weighted (SWI) MRI. Two trained neuroradiologist blind-rated and independently classified the MRI images into PD and non-PD based on the presence or absence of swallow-tail sign then reached a consensus on final results. The reliability of using high resolution 3T – SWI MRI as a diagnostic tool of PD was determined by the absolute inter-rater agreement (Cohen's kappa coefficient). The validity was assessed by the sensitivity and specificity of the MRI results in comparison with clinical diagnostic as the gold standard.

Results: 52 PD and 35 non-PD subjects have joined our study. The mean ages of two groups of participants were 51.63 for PD and 49.43 for non-PD. The reliability of the nigrosome-1 detection using 3T – SWI MRI was at a substantial level with kappa value = 0.739. The sensitivity, specificity, positive predictive value, negative predictive value and diagnostic accuracy resulted 94.34%, 91.67%, 94.55%, 91.89% and 94.38% respectively.

Conclusions: Assessing the substantia nigra on high resolution 3T – SWI MRI for the typical “swallow – tail” appearance is a promising neuro-imaging marker for the diagnosis of PD.

P 020

FEATURES OF MRI SIGNS IN PATIENTS WITH PARKINSON'S DISEASE

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Background: Parkinson's disease (PD) involves widespread damage to various areas of the cerebral cortex. We aimed to establish using MRI the presence of differences in the thickness of the cortical layer in patients with early and advanced stages of PD.

Methods: We examined 22 patients with PD, with stages 2 (group 1) and 3 (group 2) according to the Hoehn-Yar functional scale, of which 12 patients had an akinetic-rigid form of the disease (54.5%), the rest patients had a mixed form of PD (45.5%). The examination protocol consisted of a clinical assessment of the condition of patients with the determination of the stage of the disease, as well as an MRI study on a magnetic resonance tomography.

Results: Complications of the course of the disease in the 2nd stage of PD were represented by moderate cognitive deficit, increased daytime sleepiness, and depressive disorders. In the 3rd stage of the disease, cognitive impairments ranged from moderate to dementia, there was also a significant increase in the severity of daytime sleepiness and night sleep

disturbances, and deepening of depression. In patients with PD, we found significant differences in the thickness of the cortex in both the left and right hemispheres of the brain. One of the most interesting results obtained is degeneration in the visual cortex. Pathology of the posterior dorsal cingulate gyrus (group 1-2.758; group 2-2.624; p= 0.017) affects the performance of operations with episodic memory and the ability to understand and realize the opinions of other people. There is a decrease in the thickness of the cortical layer (group 1-2.21; group 2-2.11; p= 0.044), which negatively affects cognitive and mental disorders that develop in patients with PD. Changes in the fusiform gyrus (Group 1-1.83; Group 2-1.75; p=0.042) has a negative impact primarily on the state of cognitive functions of patients and is one of the mechanisms for the development of hallucinations. Despite the fact that there were no significant differences in the thickness of the cortex among the structures of the parietal lobe, graphic post-processing visualizes very bright differences between patients with the 2nd and 3rd stages of the disease.

Conclusions: The data obtained make it possible to establish a connection between non-motor manifestations of PD and degeneration of certain cortical areas of the brain. In this regard, it is necessary to further develop and improve high-tech methods that will contribute to clarifying the issues of pathogenesis and predicting the course of PD.

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CORRELATION SPECIFICITY OF NEUROIMAGING CHANGES WITH CLINIC SYNDROMES IN PARKINSON'S DISEASE, VASCULAR PARKINSONISM AND CHRONIC CEREBRAL ISCHEMIA

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Background: Although the problem of Parkinson's disease has attracted the attention of researchers for many years, thousands of innovations about the clinic, treatment methods, and principles of differential approach have been discovered, today the pathogenesis of disease development, differential diagnosis and treatment of complications, and disease prevention are still lame not only from a scientific, but also from a practical point of view.

Methods: Based on this study, the results of a comprehensive clinical examination of 117 patients were analyzed. Research work was carried out on the basis of the Tashkent medical academy clinic in 2019-2022. To assess the characteristics of vascular disorders in Parkinson's disease 47 patients with Parkinson's disease, 40 patients with vascular Parkinsonism and the third group of 30 patients with chronic cerebral ischemia.

Results: The factors for Parkinson's disease and vascular Parkinsonism, the onset of the disease, the clinical course, and the degree of autonomic, psycho-emotional and cognitive impairment all differ dramatically from each other. The main factor for VP development was hypertonia 86.5% (p < 0.05), CCI 72.5% (p < 0.05), diabetes mellitus 40% (p < 0.05), strokes 55.5% (p < 0.05) and their combination, factors were seen in 82.3% of cases (p < 0.05); On neuroimaging examination, moderate periventricular edema was recorded in 49.7 ± 2.4% (p < 0.05) in PD, 62.4 ± 2.3% in VP (p < 0.05), and 55.7 ± 3.4% (p < 0.05) with CCI. Also, subcortical leukoaraiosis separately and with small leukoaraiosis with multihyperintensity in different localizations in T2 mode in 51.4% (p < 0.05) in PD, 74.8% (p < 0.01) in VP, 49.3% of CCI. Ischemic changes in the subcortical nuclei were observed in 49.2% (p < 0.05) in the first group, 76.2% (p < 0.01) in the second group and 38.9% in the third group. The results of MRI analysis showed a correlation between the correlation between periventricular edema and growth and posture disorder r = -0.31, correlation between impaired coordination r = 0.71, memory impairment r = 0.31 and association with emotional lability r = 0.31. The process of long-term cerebral vascular disorders in vascular parkinsonism changes the morphological structure of the brain tissue. In particular, vascular changes are clinically significant in terms of their effect on the pathophysiological form of vascular parkinsonism, the appearance of neuroimaging and the clinical form of the disease.

Conclusions: These correlations were based on the origin of memory