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Hereditary-genealogical features of Parkinson's disease and their early detection of the disease

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***Abstract*---**In recent years, various levels of scientific research have been conducted on the early detection of Parkinson's disease. Neurotrophic factors in the nervous system injury today, especially in the study of degeneration of dopaminergic neurons. In particular, there is a growing interest in the gall neurotrophic factor. rather, they can be used as a predictor of early detection of diseases, as well as to draw conclusions about their consequences. The practical significance of the results of the study is the introduction of tests using IFA method of glial neurotrophic factor in the serum of patients, special attention as a predictor for Parkinson's disease, early detection and comparative diagnosis of PC using specially developed criteria, as well as optimization of differential treatment measures.

***Keywords*---**Parkinson's disease, DOFA-decarboxylase, genetic, serotonergic, noradrenergic, GAMK-ergic.

Introduction

Movement disorders undoubtedly form the basis of the clinical picture of Parkinson's disease. But there are a number of other clinical signs that aggravate the course of the disease, namely non-motor symptoms. These include emotional, cognitive, vegetative, sensory, and mental disorders (1). Mental disorders play an important role in the clinical manifestations of PK [2].

Damulin I.V. and co-authors (1997, 2002), as well as Zakharov V.V. and co-authors (2003,2005) suggest that cognitive impairment may be observed at mild, moderate, and severe levels [3]. A number of studies in recent years have focused

on the study of cognitive impairments before PC dementia. In most cases, cognitive impairments that are mild or obvious are observed in PC. Mild cognitive impairment is observed in 50% of patients with PC, and pronounced cognitive impairment is observed in 30-40% of patients. Approximately 30% of patients have dysmenorrhea, and the remaining 70% have impaired daily activity control. Studies in recent years have shown that cognitive impairments that are mild or obvious in PC are a stage in the transition from one process to another. According to a 4-year follow-up by C. Janvin and co-authors, 62% had a pronounced dementia and 20% had a mild cognitive impairment. Dementia is seen in older people with a long history of illness. Dementia in PC accounts for 3-4% of severe cognitive impairment disorders observed in the elderly. The risk of developing dementia in patients with PC is 2 times higher than in a healthy population of this age, according to some scientists, this figure is 6 times higher [4,7].

Dementia is observed in 20–40% of patients with PC than in population-restricted (Aarsland D., 2005). According to some data from longitudinal studies, dementia is observed in up to 80% (Aarsland D., 2003). Based on long-term observations, severe cognitive impairment in PC is detected in 18-80% of patients.

Chuxlovin B.A. and co-authors (2007) found that when comparing PK with vascular dementia and vascular parkinsonism, neuropsychological findings showed higher levels of visual and attentional disturbances, decreased thinking, and a forehead test that were evident in the disease [6,8]. In 2008, Stepkina received a D.A. and studies by co-authors suggest that the progression of cognitive impairment is due to dysregulatory and neurodynamic changes, and a lack of nominative activity of speech is observed [5].

The aim of the study

is to develop guidelines for the early detection and prediction of early detection of Parkinson's disease.

Research material method

In order to achieve the objectives of the study, 106 patients with various forms of PK treated in inpatient and outpatient settings in the departments of the multidisciplinary clinic of the Center for Professional Development of Medical Staff were registered. The control group consisted of 25 age-appropriate practically healthy and non-PK patients. A total of 131 patients were examined. Patients in the main group ranged in age from 18 to 70 years, with an average of 56.04 ± 10.9. The average duration of illness was 5.56 ± 6.2 years. Of the patients examined in the main group, 55 (51.8%) were male and 51 (48.2%) were female. The control group consisted of 13 men (52%) men and 12 women (48%), respectively. The mean age of male patients with PC was 18–70 years, with an average age of 52.6 ± 11.1 years, and that of women was 32–68 years, with an average age of 59.7 ± 10.9 years. The duration of the disease was 4.1 ± 5.6 years in men and 6.32 ± 5.8 years in women.

Research results

Given forms of parkinsonism, only patients with primary idiopathic PK were included in the study. For this, the diagnosis of PC was based on the criteria of A. Hughes and co-authors, as well as the British Brain Bank (Hughes A. J. et al. 1992). PK was differentiated from secondary vascular parkinsonism and other types based on a number of criteria, as well as from tertiary parkinsonism, i.e. parkinsonism associated with other neurodegenerative and hereditary diseases. Diagnosis of PC was made on the basis of patient complaints, medical history, genealogical history, signs of nervous system damage, clinical-laboratory and neuroimaging (CT, MSKT and MRI). CT and MRI examination revealed no changes in the area of the subcortical nodes of the patients. When the family history of patients was inquired, the incidence of familial cases of the disease was observed in 4 patients in 4.9%, ie in the autosomal dominant type. In all other patients, the disease was found to be sporadic.

When the initial symptoms of parkinsonism, i.e., the onset of symptoms, were observed, it was not possible to differentiate the clinical form of the disease, and the number of patients in this group was 25 (23.6%). Considering that the remaining 81 Parkinson's manifested in 3 different manifestations depending on the predominance of clinical signs, the patients were also divided into 3 groups. 26 patients (24.5%) with group 1 akinetic-rigid form; 28 patients (26.4%) with group 2 tremor; There were 27 (25.4) patients with group 3 mixed form. PK stages were identified and grouped using the Hen and Yar (Hoehn M., Yahr M.D., 1967) scale. Stage 0 of the disease is the period when the motor symptoms of the disease have not yet been identified, but during this period the symptoms of the disease may begin to appear, and the number of patients at this stage was 25 (23.5%). While stage 1 disease symptoms began to appear unilaterally in the arms and legs, and the number of patients in this period was 28 (26.4%), in stage 2 the clinical signs also spread to the other arms and legs, in this stage 28 patients people (26.4%). In stage 3 of the disease, the clinical signs in patients were bilateral, postural instability was observed, and patients were able to self-serve, with 26 such patients (24.5%). Given that patients in stages 4 and 5 of the disease are in a relatively serious condition and in need of assistance from others, bed rest is not included in this study group. Stages 1.5 and 2.5 of the disease also differ, but statistically, the analyzes were divided into 0, 1, 2, and 3 stages for accurate analysis. For statistically correct correlation, patients in all groups were distributed close to each other by sex (Table 1.).

Table 1

Patients are grouped according to gender according to clinical forms and stages of the disease

Clinical forms	Stage	Men		Women		Total:	
		Абс.	%	Абс.	%	Абс.	%
n = 25	Phase 0.	13	52	12	48	25	23,6
Akinetic-rigid n = 26	Phase 1.	5	55,5	5	4	44,5	9	34,6
	Phase 2.	55,5	4	4	44,5	9	34,6
	Step 3.	50		4	50	8	30,8
Total:		14	53,8	12	46,2	26	24,5

Vibration n = 28	Phase 1. Phase 2. Step 3.	5 55,5 5 50 4 50	4 44,5 5 50 450	932,1 1035,8 932,1
Total:		14 51,8	13 48,2	27 26,4
Аралаш n=27	1-бос. 2-бос. 3-бос.	5 50 4 44,5 5 55,5	5 50 5 55,5 4 44,5	10 35,8 9 32,1 932,1
Total:		14 48,2	14 51,8	28 25,5
Total:n=106		55 51,8	51 48,2	106 100

PK is a hereditary degenerative disease that can be passed on from generation to generation in an autosomal dominant or autosomal recessive type, often with sporadic encounters. Our long-term observations show that we encountered PK symptoms in one of the twins and examined the other twin in detail to look for predicate signs of the disease. We also encountered family cases where three in one family, a grandfather, a father, and a daughter were ill with PK.

In this regard, to study the genetic and genealogical characteristics of 106 patients with PC and included in the study group, we tried to create a family tree of all patients. shows. The results obtained from hereditary anamnestic data showed that 21 patients (19.8%) were autosomal dominant, 38 patients (35.8%) were autosomal recessive and 47 patients (44.8%) were sporadic. was

In the next step, we analyzed the hereditary types according to the clinical forms of the disease. Of the patients who inherited the autosomal-dominant type, 18 (85.7%) had an akinetic-rigid form and 3 (14.3%) had a tremor form. Of the autosomal recessive-type hereditary patients, 21 (55.2%) were diagnosed with tremor and 17 (44.8%) with mixed PC. Of the patients with sporadic cases, 17 (36.1%) were diagnosed with tremors and 30 (63.9%) with mixed forms. It should be noted that in the autosomal dominant type, it was clear that the rpoband was inherited from the male, the patient from the female, and the proband from the male.

Comparing the age, disease progeny type, and clinical forms of patients, the mean age of patients with akinetic-rigid form was 43.6 ± 5.8, the mean age of patients with tremor was 58.6 ± 8.7, and the mean age of patients with mixed form was 43.6 ± 5.8. age was found to be 66.3 ± 7.4.

In the next phase of our study, we targeted olfactory disturbances and sleep disturbances as predictors of PK. We analyzed olfactory disturbances and sleep disturbances in 106 patients with PC. Our results suggest that olfactory disturbances and sleep disturbances have been observed in patients with PK for several years before movement disorders, i.e., tremors, stiffness, and hypokinesia. Of the 106 patients with PK who were examined, 88 (83%) were found to have hyposmia / anosmic olfactory disturbances. Careful examination of the patients revealed that after 3-4 years, when the anamnesis was fully collected, the main symptoms of the disease, tremors, hypokinesia and rigidity began.

Patients were found to be largely indistinguishable from odors, and reported that after some time, odor perception began to reappear. Interestingly, odor

disturbances in PC do not appear to be exacerbated until the onset of motor disorders associated with the main movement of the disease. This requires a more in-depth analysis of patients 'medical history. Of the 88 patients who complained of olfactory impairment, 26 (29.5%) had a good odor for up to 1 month, 33 (37.5%) for 2-3 months, and 29 (33.0%) for 4-5 months. reported unnoticed, Fig. 1

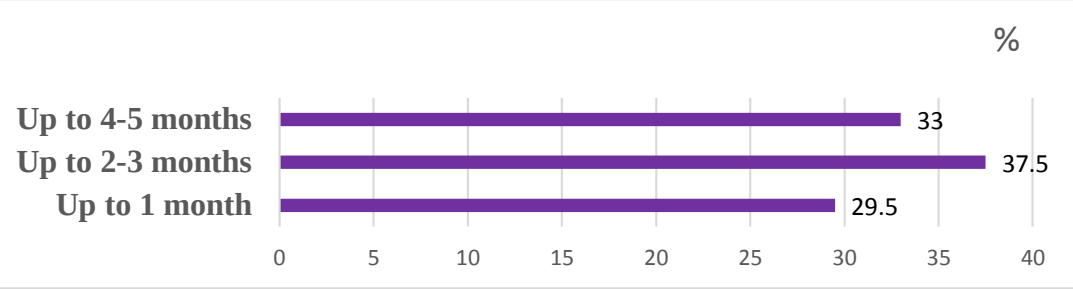

Figure 1. The duration of the first olfactory impairment in patients with PC

It should be noted that none of the patients who complained of movement disorders reported that their sense of smell was impaired. In the next step, we compared patients who had an odor disorder with those with clinical forms of the disease. The results showed that patients with olfactory disorders for 1 month developed an akinetic-rigid form of the disease, patients with odor disorders for 2-3 months developed tremors, and patients with odor disorders for 4-5 months developed a mixed form of the disease. This can be explained by the fact that if a-sinucle less injures the hippocampal area, it can develop akinetic-rigid, relatively long-term traumatic form of tremor, and longer-term mixed form of the disease, 69.2% of 26 patients with akinetic-rigid pain Homogeneous cognition was found to be impaired for 1 month, 23% for 2-3 months, and 7.8 patients for 4-5 months. In the titration scale, 22.4% of 28 patients had a sense of smell disorder for up to 1 month, 60.7% for 2-3 months, and 17.9% for 4-5 months. , 1% -70.4%, and in the group of patients with movement disorders not yet observed, 32% -32% + 36%.

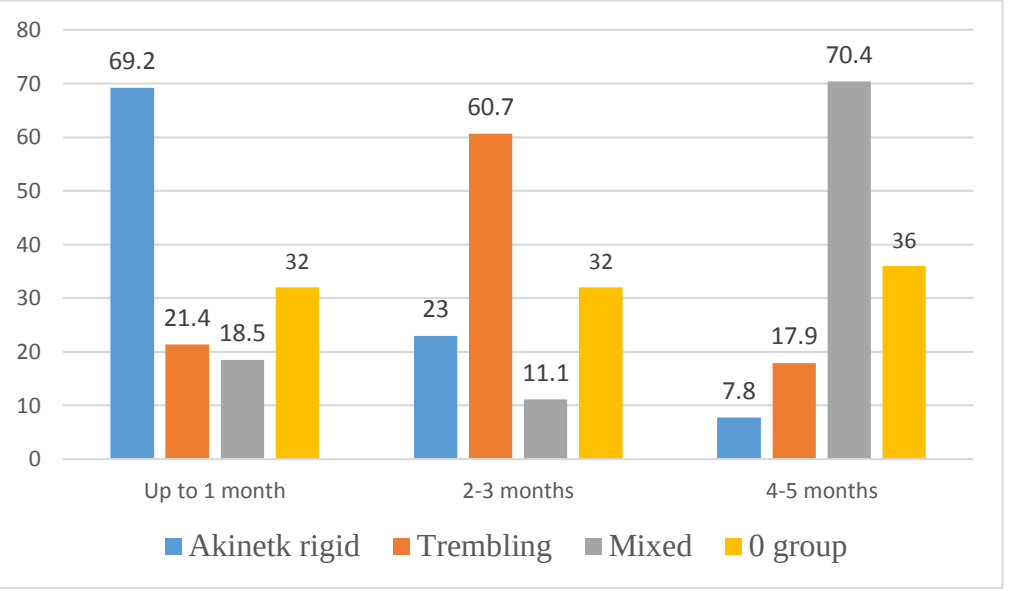

Figure 2. Observation of odor disorders on clinical forms of PC

In summary, information on the origin of PK can be obtained by conducting hereditary amanesthetic examinations in patients. In the autosomal dominant generation, if a healthy child is born from a sick parent, the children born from it will also be born healthy. If an autosomal recessive-type healthy man marries a foreign healthy woman, all his children will be healthy.

Conclusion

1. Parkinson's disease is a hereditary degenerative disease, with 19.8% autosomal dominant, 35.8% autosomal recessive, and 44.8% sporadic. 85.7% of patients with autosomal dominant type had an akinetic-rigid form and 14.3% had a form of tremor, 55.2% of patients with autosomal recessive type had a form of tremor and 44.8% had a mixed form, sporadically. 36.1% of patients encountered may present with tremors and 63.9% with mixed forms of the disease.

2. In 90.3% of cases of Parkinson's disease, hyposmia and anosmic odor disorders, in 66.7% of cases, sleep disorders at the level of hyposomnia and hypersomnia, in 70.8% of cases, constipation and in 64.6% of patients, behavioral changes in the form of "dizziness" can be considered as a predicate for diagnosis.

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