YEVROSIYO PEDIATRIYA AXBOROTNOMASI/ЕВРАЗИЙСКИЙ ВЕСТНИК ПЕДИАТРИИ

YEVROSIYO PEDIATRIYA AXBOROTNOMASI

ЕВРАЗИЙСКИЙ ВЕСТНИК ПЕДИАТРИИ

TIBBIY ILMIY-INNOVATSION JURNAL

МЕДИЦИНСКИЙ НАУЧНО-ИННОВАЦИОННЫЙ ЖУРНАЛ

1 (12)
2022

ISSN 2181-1954
ESSN 2181-1962

ЕВРОСИЁ ПЕДИАТРИЯ АХБОРОТНОМАСИ
ЕВРАЗИЙСКИЙ ВЕСТНИК ПЕДИАТРИИ

Тиббий илмий-инновацион журнал
Медицинский научно-инновационный журнал

Учредители:
Ташкентский педиатрический медицинский институт
Санкт-Петербургский государственный
педиатрический медицинский университет

Зарегистрирован агентством информации и массовых коммуникаие при Администрации Президента Республики Узбекистан 08.05. 2019 г.
Свидетельство №1023

Журнал с 01.09. 2019 года включень в список иностранных журналов ВАК Республики Узбекистан. Протокол № 268/7 от 30.08. 2019 года.

Заместители главного редактора:
Гулямов С.С. Орел В.И.
Ответственный секретарь:
Рузиев Ш.И.
Заведующий редакцией:
Дехконов К.А.

Адрес редакции:
100140 Республика Узбекистан
г. Ташкент ул Богишамол , 223
тел: +99871 - 260-28-57;
факс: +998971 - 262 - 33-14;
www: tashpmi.uz/ru/science/journal pediatry

1(12) 2022
Январь-Март

UDK 616.858-039.3] -07:005.591.1

ASSESSMENT OF OLFACTORY FUNCTION IN THE STUDY GROUPS AND THEIR ROLE IN THE PROGRESSION OF THE DISEASE

Daminova Kh.M., Saidvaliev F.S.

Tashkent Medical Academy, Uzbekistan

Resume

The article presents the results of observation of 213 patients with PD, including 90 (42.25%) women, 123 (57.75%) men, whose mean age was 46.17±0.63 years. Patients with PD were selected in accordance with the international criteria of the British brain bank "Parkinson's Disease Society Brain Bank". Patients underwent CT or MRI of the brain. Olfactory disturbances were studied using the Sniffin Stix Test (SST) by Burchard (Hamburg, Germany). All patients underwent examination of the ENT organs. The results obtained indicate that the presence of hyposmia in patients with early onset of PD is an important biomarker of the latent neurodegenerative process of the "Parkinsonian" type and, therefore, the risk of future development of PD.

Key words: Parkinson's disease, olfactory function, brain, hyposmia, anosmia.

ОЦЕНКА ОБОНЯТЕЛЬНОЙ ФУНКЦИИ В ОБСЛЕДОВАННЫХ ГРУППАХ И ИХ РОЛЬ В ПРОГРЕССИРОВАНИИ ЗАБОЛЕВАНИЯ

Даминова Х.М., Саидвалиев Ф.С.

Ташкентская Медицинская Академия, Узбекистан

Резюме

В статье представлены результаты наблюдения 213 больных с БП из них 90(42,25%) женщин, 123(57,75%) мужчин, средний возраст которых составил 46,17±0,63 лет. Пациенты с БП были отобраны в соответствии с международными критериями Британского банка мозга "Parkinson's Disease Society Brain Bank". Больным производились КТ или МРТ головного мозга. Обонятельные нарушения исследовались с помощью Сниффин Стикс теста (ССТ) фирмы «Бюрхард» (Гамбург, Германия). Всем больным производился осмотр ЛОР-органов. Полученные результаты свидетельствуют, что наличие гипосмии у пациентов с ранним дебютом БП, важным биомаркером, скрытого нейродегенеративного процесса «паркинсонического» типа и, следовательно, риска будущего развития БП.

Ключевые слова: Болезнь Паркинсона, обонятельная функция, головной мозг, гипосмия, аносмия.

O'QIDAGI GURUHLARDA HID BILISH FUNKSIYASINI BAHOLANISH VA KASALLIKNING PROGRESSIYASIDAGI ROLI

Daminova X.M., Saidvaliev F.S.

Toshkent tibbiyot akademiyasi, O'zbekiston

Rezyume

Maqolada PD bilan og'rigan 213 bemorni, shu jumladan 90 (42,25%) ayollar, 123 (57,75%) erkaklar, o'rtacha yoshi 46,17 ± 0,63 yoshni kuzatish natijalari keltirilgan. PD bilan og'rigan bemorlar Britaniya miya bankining "Parkinson's Disease Society Brain Bank" xalqaro mezonlariga muvofiq tanlangan. Bemorlarga miyaning KT yoki MRI tekshiruvi o'tkazildi. Xushbo'y buzilishlar Burchard (Gamburg, Germaniya) tomonidan Sniffin Stix testi (SST) yordamida o'rganildi. Barcha bemorlar LOR a'zolarining tekshiruvidan o'tkazildi. Olingan natijalar shuni ko'rsatadiki, erta boshlangan PD bilan og'rigan bemorlarda giposmiya mavjudligi "Parkinson" tipidagi yashirin neyrodegenerativ jarayonning muhim biomarkeridir va shuning uchun kelajakda PD rivojlanishi xavfi.

Kalit so'zlar: Parkinson kasalligi, hid bilish funktsiyasi, miya, giposmiya, anosmiya.

ISSN 2181-1954. EISSN 2181-1962

Relevance

Early diagnosis of Parkinson's disease is difficult due to the similarity of clinical manifestations in the early stages with essential tremor, multisystem atrophy, progressive supranuclear palsy, etc. That is why the search for biomarkers of the neurodegenerative process in PD is currently recognized as extremely relevant - biochemical, neurophysiological, neuroimaging, etc. [3.5]. From a pathophysiological point of view, PD is characterized by a decrease in the inhibitory effect of pallidum on the striatum, which leads to “inhibition of inhibition” of peripheral motor neurons [4]. Olfactory impairment may be an early clinical sign of PD [1,2]. With the progression of the disease, the presence of these pathological bodies is noted in the neurons of the substantia nigra, midbrain, basal ganglia and, at the final stages, in the cells of the cerebral cortex. Primary parkinsonism includes Parkinson's disease (PD), the second most common neurodegenerative disease that represents a significant medical and socioeconomic problem, as well as juvenile parkinsonism. The diagnosis of the disease is made on the basis of developed clinical criteria [6,7], the correct application of which is largely determined by the qualifications of the doctor, and therefore, at an early stage of the disease, its differentiation from other forms of pathology can cause serious difficulties. Non-motor complications increase with the progression of the disease. Almost all biomarkers of PD are considered for their use in the diagnosis of early and premotor stages of diseases. PD, as already mentioned, at the earliest stages is characterized by the development of an olfactory deficit. Olfactory disturbances occur several years before movement disorders. In general, among patients with PD, olfactory disorders are detected in 70-90% of cases [8], and according to Lotsch et al. [9], even in 99% of cases. At the same time, olfactory disorders may not be felt by the patient himself, therefore, to identify them, it is important to conduct special testing.

Objective. To assess olfactory functions in the examined groups and their role in the progression of PD disease.

Materials and research methods.

213 patients with PD were under observation, including 90 (42.25%) women, 123 (57.75%) men, whose average age was 46.17±0.63 years, predominantly of Uzbek nationality. Patients with PD were selected in accordance with the international criteria of the British brain bank "Parkinson's Disease Society Brain Bank". To exclude other causes of parkinsonism syndrome, patients underwent CT or MRI of the brain. In patients with PD, the form of the disease (akinetic-rigid, mixed, or trembling) and the functional stage of the disease (according to the Hoehn-Yahr scale) were assessed. Olfactory disturbances were studied using the Sniffin Stix Test (SST) by Burchard (Hamburg, Germany). All patients underwent examination of the ENT organs.

Results and discussion

We examined 213 patients with PD, 90 (42.25%) women, 123 (57.75%) men, were divided into two groups, group I - with an early onset of PD, consisted of 79 (37.09%) patients, of of which 31 (14.55%) patients with an early onset and with a burdened family history (SA). Group II - with a late onset of PD, consisted of 134 (62.91%) patients with a late onset, of which 76 (35.68%) patients with a late onset, and with a burdened family history. Group I - with an early onset of PD, consisted of 79 (37.09%) patients with an early onset of PD, of which 45 (56.86%) were men and 34 (43.04%) were women. There were 31 (14.55%) patients with PD with an early onset of PD, but with aggravated SA, of which 18 (58.06%) were men and 13 (41.94%) were women. Group II - with a late onset of PD, consisted of 134 (62.91%) patients, of which 75 (55.97%) were men and 59 (44.03%) were women. There were 76 (35.68%) patients with PD with a late onset of PD, but with aggravated SA, of which 44 (57.89%) were men and 32 (42.11%) were women. Evaluation of olfactory disorders in 213 patients with PD, carried out using SST, which were divided into two groups, group I - with an early onset of PD, consisted of 79 (37.09%) patients, group II - with a late onset of PD, consisted of 134 (62.91%) patients, with a late onset, showed distinct disorders in the examined group in three indicators - threshold, discrimination, identification. The majority of the examined patients with PD 185 (86.85%) revealed dysosmia in the form of hyposmia (RIO 16-29 points) and anosmia (RIO <15 points), normosmia 28 (13.15%), 163 (76.53%) hyposmia and 22 (10.33%) anosmia. Of 213 patients, 28 (13.15%) had a normal level of smell in three parameters; 22 patients (10.33%) have a zero level for all three indicators, that is, anosmia. In 185 cases (86.85%), the sense of smell was reduced in all studied parameters.

In a comparative analysis for each test separately in the main group of patients, a

ISSN 2181-1954. EISSN 2181-1962

decrease in the sense of smell by the threshold was detected in 163 patients (76.53%): the assessment of olfactory disorders according to the threshold test varied from 0 to 9.5 points, the average score was 2.6 ± 1.4 points. Decreased sense of smell according to the discrimination test was found in 126 people (59.14%): the assessment of olfactory disorders ranged from 0 to 16 points, the average score was 8.7±4.2. A decrease in identification was found in 169 people (79.35%): the assessment of olfactory disorders ranged from 0 to 16 points, the average values were 8.2±4.3. Out of 185 patients with decreased sense of smell, 76 patients (41.08%) had anamnestic notes of these disorders even before the test (including 16 (8.65%) of them with anosmia). Most of the patients presented these complaints after a targeted survey, that is, a violation of the function of smell was not among the daily complaints.

We analyzed the relationship between the subjective and objective assessment of the level of smell and the duration of the disease. With a duration of the disease <3 years 104 (48.83%), with men 59 (56.73%) and women 45 (43.27%) a, the number of people who noted a decrease in smell was 8 (7.69%) people, with duration of PD up to 6 years - 51 (23.94%) patients, men 29 (56.86%), and women 22 (43.14%), with duration of PD up to 7 years - 31 (14.55%) patients, 18 (58.06%) men and 13 (41.94%) women, with PD duration up to 8 years - 27 (12.68%) patients, 16 (59.26%) men, and 11 (40, 74%). 18 (9.73%) patients noted a violation of smell before the appearance of motor disorders characteristic of PD.

The results of olfactory tests in women are better, i.e. there are gender differences. In women, the average OIS score was 22.66±4.12; in men, the average OIS score was 16.58±2.78. According to the threshold, the average score for women was 3.03±1.54, for men - 1.86±2.18; on discrimination, the average score for women is 10.0±3.03, for men - 7.58±2.60; by identification, the average score for women was 9.79±4.01, for men - 7.14±5.16. Thus, according to all three tests, hyposmia is more pronounced in men.

Conclusions

Thus, it can be concluded that vestibular disorders detected in PD patients are a significant additional clinical manifestation of the disease, along with well-known motor and non-motor symptoms. To date, there is reason to consider the presence of hyposmia in patients with early onset PD as an important biomarker of the latent neurodegenerative process of the "Parkinsonian" type and, therefore, the risk of future development of PD.

LIST OF REFERENCES:

1. Daminova X.M. Modern view to optimization of the diagnosis of the course of parkinson’s disease //New Day in Medicine 1(39)2022 115-118 https://cutt.ly/KOerez1
2. Morozova S.V., Savvateeva D.M., Lopatin A.S. Disorders of sense of smell and their correction // Herald of otorinolaryngology. - 2012. - № 5. - p. 66-70.
3. Schtok V.N., Fedorova N.V. Parkinson's disease // Extrapyramidal disorders: Hand-in diagnostics and treatment / ed. V.N. Stem, I.A. Ivanova-Smolenskaya, O.S. Levin. M.: Medpress-Inform, 2012. P. 87-124.
4. Alonso-Navarro H., Jimenez-Jimenez F.J., Garcia-Martin E., Agundez J.A.G. Genomic and pharmacogenomics biomarkers of Parkinson's disease // Cur. Drug Metab. 2014. - Vol. 15. - P. 129-181.
5. Ponomarev V.V. Lab biomarkers of early diagnosis of Parkinson's disease / V.V. Ponomarev, A.V. Boyko, O.A. Ionova // International Neurological Journal. - 2016. - №3 (81). - from. 54-58.
6. Braak H. Staging of brain pathology related to sporadic Parkinson's disease / Braak H., Del Tredici K., Rüb U., de Vos R.A.I., Jansen Steur E.N.H, Braak // Neurobiol Aging.–2013–Vol.24–p.197–210.
7. Duda J.E. Olfactory system pathology as a model of Lewy neurodegenerative disease // J. Neurol. Sci. - 2017. - Vol. 289. - P. 49-54.
8. Eibenstein A., Fioretti A.B., Lena C. et al. Modern psychophysical tests to assess olfactory function // Neurol. Sci. - 2015. - Vol. 26. - P. 147-155.
9. Xu Y. Meta-analysis of risk factors for Parkinson's disease dementia.A 10-year study of the incidence of and factors predicting dementia in Parkinson’s disease / Xu Y., Yang J., Shang H. // Translational Neurodegeneration [Transl Neurodegener] – 2016 – Jun 01 –Vol. 5 –p. 11.

Entered 09.03.2022

ISSN 2181-1954. EISSN 2181-1962