Russian scientists have developed a "predictor" of Parkinson's disease forms

Researchers of Peter the Great St. Petersburg Polytechnic University within the framework of Project 5-100 developed a unique program capable of determining the form of Parkinson's disease and predicting possible future symptoms in accuracy of up to 96%. According to scientists, this development allows to promptly start the required treatment.

Parkinson's disease is a slowly progressing chronic neurological disease. It is the second most frequent neurodegenerative disease after Alzheimer's disease. The total prevalence of Parkinson's disease in the world is 200 cases per 100 thousand people. Parkinson's disease affects approximately every hundredth person older than sixty. The Parkinson's disease is more common for men than women. The victims of disease became such famous personalities as boxer Mohammed Ali, politician Yasser Arafat, Pope John Paul II.

The disease can develop differently, have different symptoms in each case: it can be both hands tremor and directly opposite form of the disease, expressed by the body stiffness (rigidity). These forms of the disease are treated differently.

Developing the program for predicting the form of Parkinson's disease, the specialists of the "Biophysics" department of the Institute of Physics, Nanotechnology and Telecommunications SPbPU in collaboration with the Institute of Experimental Medicine, applied the mathematical method of discriminant analysis. Researchers explained that this analysis allows to divide a

common array of data into the required number of groups, assign the patient to a particular group and indicate which medicine is likely to help him.

In addition, as the associate professor of SPbPU Marina Karpenko said, the program is able to predict whether the patient will demonstrate certain symptoms in the future. For example, scientists of Polytechnic University found that patients with Parkinson's disease, with the significantly reduced amount of copper in their blood, are likely to have such symptoms as a postural disorder, when the body is greatly tilted sideways ("Pisa syndrome"). It can help the doctor to start the treatment in advance.

According to the scientists of SPbPU, such an approach can provide the necessary clinical data for a large number of patients, which helps the doctors to improve the diagnosis and selection of individual treatment for each patient.

As the researchers assure, in the near future such programs can be installed on any device (computer or smartphone). "The program is trainable – the more information will be uploaded in it, the more precise conclusions and recommendations it will provide," added Marina Karpenko.