

What is Parkinson's disease?

Close to 10 million people have Parkinson's disease worldwide, more than 15,000 of whom are in Switzerland. We also expect to see an increase in the number of patients with Parkinson's in the years to come. So, how much do you know about this disease? And how to live with it? Dr Julien Bogousslavsky, Swiss Medical Association (FMH)-certified neurologist at Clinique Valmont in Glion sur Montreux and Chief Medical Officer at Neurocentre GSMN, answers our questions.



Dr Julien Bogousslavsky, FMH-certified neurologist

Dr Bogousslavsky, what is Parkinson's Disease?

Parkinson's is a chronic, progressive, neurodegenerative disease that causes gradual destruction of the neurons responsible for the production of dopamine in the brain. Dopamine is a neurotransmitter that facilitates the conduction of the "messages" sent between neurons. This lack of dopamine gradually limits more and more functions of the central nervous system, which leads to motor disorders. However, very quickly in the progression of this disease, neurons that are not involved in the production of dopamine in other areas of the brain are also affected and begin to die.

What are the symptoms of the disease?

We generally see three main symptoms. The most well known is the resting tremor,

which is, however, one of the less common symptoms. Only two out of three patients present this symptom. For that matter, it is important to note that not all types of tremor are necessarily caused by Parkinson's disease. The second, and more common, symptom is akinesia, which is a movement disorder, and slowness of movement. Finally, stiffness or rigidity in the limbs is also a sign of the disease. Although they are manageable at the beginning, these symptoms gradually become harder to deal with as the disease progresses.

What should someone do if they suspect they have Parkinson's?

It is vital to consult a neurologist to find out if it is truly Parkinson's. If the disease is confirmed, treatment consists of mitigating the motor disorders. Indeed, it is not yet possible to treat the cause of the disease nor to halt its gradual destruction of cells.

There are two main approaches to treating motor disorders. Medical treatment, such as taking dopamine, largely helps offset tremors, lack of movement and rigidity in the limbs. The second approach is physical treatment of the symptoms through various types of

therapy. Physiotherapy works on walking, balance and flexibility. Occupational therapy targets the upper limbs, such as the arms and the hands, and particularly aims to improve problems writing. An occupational therapist also finds practical solutions to problems with day-to-day tasks such as buttoning a shirt, washing yourself, climbing stairs, eating, etc. Finally, some people with Parkinson's have trouble with speech and swallowing and are treated by a speech and language therapist. All of these therapies help offset the problems in order to maintain or improve the patient's level of functional independence.

As this is a neurodegenerative disease, the symptoms can't be treated with just one type of therapy. How often would you recommend these therapies?

Really, these therapies ought to be carried out regularly. For patients in advanced stages of the disease, we recommend two stays of 2 to 3 weeks per year in a rehabilitation clinic.

Is it possible to prevent the disease?

Unfortunately, not. In fact, Parkinson's disease begins well before the first symptoms appear. It is even estimated that around $\frac{3}{4}$ of the disease

processes are already well underway before the onset of these symptoms.

Are there currently any new leads in treatment?

In recent years, many clinical studies have been carried out and they are promising. For example, researchers are interested in alpha-synuclein, a protein found in the neurons of the brain that contributes to their destruction by aggregating into small clusters. The new treatments are aimed at solving several problems: reducing the production of alpha-synuclein and facilitating its elimination from neurons.

Research into stem cells and genetics also seeks to find new treatment pathways for Parkinson's disease. The aim would be to replace the diseased cells in the brain with new ones or simply to directly eliminate the errors in the genes responsible for the disease's onset.

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