X-Plain™
Parkinson's Disease
Reference Summary

Introduction

Parkinson's disease is a common disease that affects muscle control. Parkinson's Disease affects about half a million people every year.

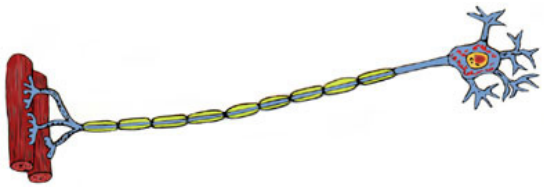
The symptoms of Parkinson's disease are easily treated.

This patient education summary will help you understand Parkinson's disease and how it can be treated.

Anatomy

The brain is the control center of the body. The brain controls

- movements
- sensations
- feelings
- personality



The right side of the brain controls the left side of the body, and the left side of the brain controls the right side of the body.

The brain cells that make the brain are called "neurons." If a neuron dies, a new neuron will not grow in its place. Most other cells in the body are replaced with new cells if they die.

Chemicals called "neurotransmitters" help neurons talk to each other. When neurotransmitters are balanced, the brain functions smoothly.

Dopamine and acetylcholine are neurotransmitters in the brain. They control movement.

A small area in the base of the brain makes dopamine. This area is called the "substantia nigra," or the black substance.

The causes of Parkinson's disease are not known. However, we know that in people with Parkinson's, neurons in the substantia nigra slowly die off. This causes less dopamine to be made.

With less dopamine than normal, there is less dopamine than acetylcholine in the brain. This imbalance causes the symptoms of Parkinson's disease.

Symptoms

Parkinson's disease usually affects people around the age of 60. It affects people differently. Some people have almost no symptoms and others have a lot of symptoms.

The first symptom of Parkinson's disease is usually shaking, or tremors. Tremors are often in the hands or arms, but they can also occur in the legs, feet or jaw.

People with Parkinson's usually shake when the body is not moving, or at rest. The shaking normally goes away when the part of the body that shakes is being used. Tremors usually stop when the person is asleep.

Parkinson's patients may have muscle stiffness in the neck, shoulders or arms. It can make it hard to bend the legs or arms. Over time, muscle stiffness may cause muscle aches.

In advanced stages of Parkinson's, muscle stiffness can result in a stooped posture.

Parkinson's Disease can cause balance problems, which affect the way a person walks. This could cause the person to fall down a lot.

Bradykinesia, or slow movement, causes Parkinson's patients to shuffle their feet when they walk. It also takes extra effort to start moving. Unconscious movements, such as blinking or facial expressions, may also be slow.

Slow facial expressions can lead to a condition called "poker face." This makes it so the person shows no emotions in his or her face.

Bradykinesia can eventually make it impossible to swallow. When this happens, the person might drool.

At its worst, bradykinesia can cause "freezing." This is when a person feels like he or she cannot move. Freezing can prevent a person from getting out of bed or eating by himself or herself.

Additional symptoms that are less likely include:

- Depression
- Personality changes
- Dementia
- Difficulty sleeping
- Problems speaking
- Sexual complications

Treatment

Parkinson's Disease is mainly treated with oral medications. If they do not work, surgery sometimes helps some symptoms.

The goal of treatment for Parkinson's disease is to balance dopamine and acetylcholine in the brain.

A very common Parkinson's medication is called levodopa, or L-dopa. It is a chemical that the brain needs to make dopamine.

Chemicals in the blood called enzymes destroy L-dopa quickly. L-dopa is mixed with carbidopa in a medication called Sinemet™ to treat Parkinson's. Carbidopa prevents enzymes from destroying the L-dopa.

Medications that do the same thing as dopamine in the brain are also used to treat Parkinson's. These include bromocriptine, lisuride and pergolide.

Parkinson's can also be treated with medications that counteract acetylcholine. This compensates for the lack of dopamine. These include Artane™ and Cogentin™.

Medications for Parkinson's usually work very well at first. Over time, doses and combinations of medications might need to be changed for the best results.

Unfortunately, medications for Parkinson's disease have side effects that include

- Nausea
- Depression

- Dry mouth
- Blurred vision

After a Parkinson's patient has been taking medicine for a while, he or she might start having jerky movements in the face or arms. This is called "dyskinesia."

Parkinson's medication can also make a person go from having good mobility to suddenly having almost no mobility. This is called "on-off phenomena." This also happens when the disease reaches advanced stages.

Physical and occupational therapy can help posture, ability to walk and fine movements.

Sometimes changing medicine combinations or dosages makes symptoms better. If medications do not help, surgery may be an option. Surgery for Parkinson's either destroys or stimulates parts of the brain.

It is very dangerous to stop or change medications without discussing it with a doctor! This should NEVER be done unless a doctor advises it.

Similarly it is not advisable to take over-the-counter drugs, natural remedies or homeopathic treatments on your own without telling your neurologist. Even though some of these may be helpful their effectiveness has not been proven and they could interact with other medications with potential, severe consequences.

It is important to tell the doctor about any symptom changes or side effects. A log or journal that shows what time medications are taken and any symptom changes can be helpful.

Conclusion

Parkinson's Disease is a common condition. Treatment options are available and usually work well.

The success of the treatment mostly depends on clear communication between the patient and his or her doctor.