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Autonomic Dysfunction

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Part 1 of 6: Overview

Overview

Your autonomic nervous system is made up of nerves that control those “automatic” things you need to do to survive. A few of those necessary things include blood pressure, heart rate, sweating, and digestion of your food. Autonomic dysfunction or dysautonomia refers to problems with this autonomic nervous system.

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Part 2 of 6: Definition

What Is Autonomic Dysfunction?

The autonomic nervous system (ANS) controls several basic bodily functions. These include heart rate, body temperature, breathing rate, digestion, and many other systems as well. You don't have to consciously think about these systems in order for them to work. The ANS provides the connection between your brain and your internal organs. For instance, it connects to the heart, liver, sweat glands, and even the interior muscles of your eye.

The ANS is made up of two subsystems: the sympathetic autonomic nervous system (SANS) and the parasympathetic autonomic nervous system (PANS). Most organs have nerves from both the sympathetic and parasympathetic systems.

The SANS usually stimulates organs. For instance, it increases heart rate and blood pressure when necessary. The PANS, on the other hand usually slows down bodily processes. For example, it reduces heart rate and blood pressure. There are certainly exceptions. Digestion and urination, for instance are stimulated by the PANS and slowed

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by the SANS.

The general responsibility of the SANS is to trigger emergency responses when required. These “fight or flight” responses get you ready to respond to stressful situations. The PANS, on the other hand, conserves your energy and restores tissues for ordinary functions.

Problems with the ANS can range from mild to life threatening. Sometimes only one part of the nervous system is affected. In other cases, the entire ANS is affected. Some conditions are temporary and can be reversed, while others are chronic and will continue to worsen over time. Diseases such as diabetes or Parkinson’s disease can cause irregularities with the ANS. Problems with ANS regulation often involve organ failure, or the failure of the nerves to transmit a necessary signal.

Part 3 of 6: Symptoms

Symptoms of Autonomic Dysfunction

Effects of autonomic dysfunction can include just a small part of the ANS, or the entire ANS. Some symptoms that may indicate the presence of an autonomic nerve disorder include:

- dizziness and fainting upon standing up (orthostatic hypotension)
- inability to alter heart rate with exercise (exercise intolerance)
- sweating abnormalities, which could alternately be too much sweat or insufficient sweat
- digestion difficulties due to slow digestion. Resulting symptoms could include loss of appetite, bloating, diarrhea or constipation, and difficulty swallowing.
- urinary problems. These can include difficulty starting urination, incontinence, and incomplete emptying of the bladder
- sexual problems. In men, this could be difficulty with ejaculation and/or maintaining an erection. In women, this could be vaginal dryness and/or difficulty with orgasm
- vision problems. This could be blurry vision, or the failure of the pupils to react quickly enough to changes in light.

Any or all of these symptoms may be present, and effects may be mild to severe.

Orthostatic hypotension or orthostatic intolerance (a milder form of orthostatic hypotension) are two of the most common conditions resulting from ANS disorders. Orthostatic intolerance, which results in low blood pressure on standing, causes alarming symptoms. These include lightheadedness, fainting, and heart palpitations.

Parkinson’s disease-like symptoms, such as tremor and muscle weakness, may also result from certain forms of autonomic dysfunction.

Part 4 of 6: Conditions

Autonomic Dysfunction Conditions

Certain types of autonomic dysfunction can be very sudden and severe, yet also reversible.

Guillain-Barre syndrome is an autoimmune disease affecting nerves of the ANS. It has a rapid onset of symptoms, including muscle weakness, tingling, and paralysis. However, most functions affected by this condition can be regained over time.

Primary forms of dysautonomia are conditions that can result in general autonomic failure. The systems associated with the ANS nerves no longer work effectively when general autonomic failure occurs. Multiple system atrophy (MSA) is a progressive deterioration of the ANS. MSA affects all ANS-associated functions and causes orthostatic hypotension and Parkinson's-like symptoms. Onset is usually in adults over 50.

Other primary forms of dysautonomia include:

- hereditary sensory and autonomic neuropathies (HSAN). This is a group of related genetic disorders that cause widespread nerve dysfunction in children and young adults. Familial dysautonomia is in this group of diseases.
- autoimmune autonomic ganglionopathy. This is an autoimmune disease in which the body attacks a particular set of ANS nerve cells.
- Holmes-Adie syndrome. This condition mostly affects the nerves controlling the muscles of the eye, causing vision problems.
- neutrally mediated syncope. This affects regulation of heart rate and blood pressure, causing episodes of fainting.

Other dysautonomias can result from disease or damage to the body. Autonomic neuropathy refers to damage to nerves from certain medications, injury, or disease. Diseases causing this neuropathy include bacterial infections, alcoholism, diabetes, and autoimmune disorders. Parkinson's disease causes orthostatic hypotension and other ANS failure symptoms.

Part 5 of 6: Treatment

Treatment of Autonomic Dysfunction

Autonomic dysfunction is treated by addressing the symptoms of whatever form of dysfunction you are experiencing. Orthostatic hypotension, for instance, can be treated with lifestyle changes and medication. Symptoms can respond to elevating the head of the bed you sleep in, drinking enough fluids, and compression stockings to prevent blood pooling in your legs. Medications like midodrine are also used for treating autonomic dysfunction.

Treating underlying conditions like alcoholism, diabetes, or Parkinson's may help alleviate the progression of ANS dysfunction. Damage is difficult to cure. More severe symptoms may be addressed with the help of physical therapy. Walking aides, feeding tubes, and other methods may be used for bypassing damaged internal systems.

Part 6 of 6: Prognosis

Prognosis for Autonomic Dysfunction

Damage to the nerves of the autonomic system is often not reversible. Some illnesses like

Guillain-Barre may see significant recovery. Orthostatic hypotension responds to treatment, but there is an increased risk of stroke due to the sudden blood pressure changes. More general and severe conditions, such as multiple system atrophy, might have a life expectancy of six to ten years ([Mayo Clinic, 2011](#)).

Learn More About Guillain-Barre Syndrome

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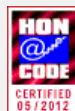
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