Orthostatic hypotension

Description

Orthostatic hypotension is a drop in blood pressure that occurs when moving from a laying down (supine) position to a standing (upright) position. The word "orthostasis" means to stand up, so the condition is defined as low blood pressure (hypotension) that occurs upon standing.

When standing up, gravity moves blood from the upper body to the lower limbs. As a result, there is a temporary reduction in the amount of blood in the upper body for the heart to pump (cardiac output), which decreases blood pressure. Normally, the body quickly counteracts the force of gravity and maintains stable blood pressure and blood flow. In most people, this transient drop in blood pressure goes unnoticed. However, this transient orthostatic hypotension can cause lightheadedness that may result in falls and injury, particularly in older adults.

The body has difficulty achieving stable blood pressure in people with orthostatic hypotension, resulting in a prolonged drop in blood pressure that occurs within minutes after moving from laying down to standing. The vast majority of people with orthostatic hypotension do not experience symptoms related to the condition; it may be detected incidentally during routine medical testing. When measuring blood pressure, orthostatic hypotension is defined as a decrease in blood pressure by at least 20mmHg systolic or 10mmHg diastolic within 3 minutes of standing.

When signs and symptoms of orthostatic hypotension do occur, they are usually the result of a reduction in blood flow (hypoperfusion) to tissues, particularly the brain. Affected individuals may have fatigue, confusion, dizziness, blurred vision, or fainting episodes (syncope). Less frequently, affected individuals can experience muscle pain in the neck and shoulders (known as "coat hanger pain"), lower back pain, or weakness. During an episode of orthostatic hypotension, symptoms are often increased in severity by physical activity, warm temperatures, eating large meals, or standing for long periods of time.

In people with orthostatic hypotension, hypoperfusion to other organs contributes to an increased risk of life-threatening health problems, including heart attack or heart failure, a heart rhythm abnormality called atrial fibrillation, stroke, or chronic kidney failure. Additionally, affected individuals may get injured from falls during fainting episodes.

Frequency

Orthostatic hypotension is a common condition that affects about 6 percent of the population. This condition is especially common in older adults, affecting at least 10 to 30 percent of people in this group.

Causes

Orthostatic hypotension has two forms that result from two main causes.

The neurogenic form is caused by problems with the autonomic nervous system, which controls involuntary body functions, including blood pressure. Normally when someone stands up, processes regulated by the autonomic nervous system make the heart beat faster and the blood vessels narrow, which increases blood pressure and blood flow in the body to compensate for gravity's effect on blood movement. Disorders that affect the autonomic nervous system can impair the adjustment of blood pressure, leading to orthostatic hypotension. These disorders often have a strong genetic component and may affect multiple members of a family. Neurogenic orthostatic hypotension often occurs along with nervous system disorders such as Parkinson's disease, dementia with Lewy bodies, multiple system atrophy, pure autonomic failure, diabetes, Guillain-Barré syndrome, dopamine beta-hydroxylase deficiency, or infections that cause disturbances in nerve function (neuropathy).

The non-neurogenic form of orthostatic hypotension is often caused by environmental or health factors that impair the body's mechanisms to stabilize blood pressure upon standing. These factors include heart disease, low blood volume (hypovolemia), alcohol use, or advanced age. Certain medications can also contribute to non-neurogenic orthostatic hypotension, such as antipsychotic or antidepressant drugs, drugs that treat high blood pressure by widening blood vessels (vasodilators), or drugs that help remove water and salt from the body (diuretics).

The non-neurogenic form of orthostatic hypotension is more common than the neurogenic form, but in about 40 percent of people with orthostatic hypotension the underlying cause is unknown (idiopathic).

Inheritance

Orthostatic hypotension is a complex condition and is usually not inherited. However, having a close relative with orthostatic hypotension likely increases a person's risk of developing the condition.

When orthostatic hypotension occurs as part of a genetic syndrome, this feature follows the inheritance pattern of the syndrome.

Other Names for This Condition

- Hypotension, orthostatic
- Hypotension, postural

- Postural hypotension

Additional Information & Resources

Genetic and Rare Diseases Information Center

- Primary orthostatic hypotension (https://rarediseases.info.nih.gov/diseases/12959/index)

Patient Support and Advocacy Resources

- National Organization for Rare Disorders (NORD) (https://rarediseases.org/)

Clinical Trials

- ClinicalTrials.gov (https://clinicaltrials.gov/search?cond=%22Orthostatic hypotension%22)

Scientific Articles on PubMed

- PubMed (https://pubmed.ncbi.nlm.nih.gov/?term=%28Hypotension,+Orthostatic%5BMAJR%5D%29+AND+%28%28orthostatic+hypotension%5BTI%5D%29+OR+%28postural+hypotension%5BTI%5D%29%29+AND+review%5Bpt%5D+AND+english%5Bla%5D+AND+human%5Bmh%5D+AND+%22last+1800+days%22%5Bdp%5D)

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