

Addison disease

Definition

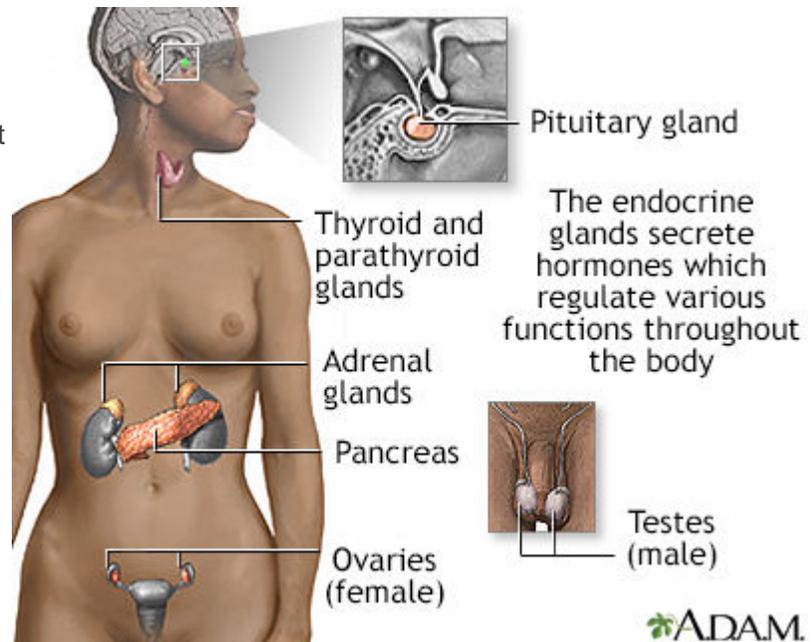
Addison disease is a disorder that occurs when the adrenal glands do not produce enough hormones.

Causes

The adrenal glands are small hormone-releasing organs located on top of each kidney. They are made up of an outer portion, called the cortex, and an inner portion, called the medulla.

The cortex produces 3 hormones:

- Glucocorticoid hormones (such as cortisol) maintain sugar (glucose) control, decrease (suppress) immune response, and help the body respond to stress.
- Mineralocorticoid hormones (such as aldosterone) regulate sodium, water and potassium balance.
- Sex hormones, androgens (male) and estrogens (female), affect sexual development and sex drive.



Addison disease results from damage to the adrenal cortex. The damage causes the cortex to produce hormone levels that are too low.

This damage may be caused by the following:

- The immune system mistakenly attacking the adrenal glands (autoimmune disease)
- Infections such as tuberculosis, HIV, or fungal infections
- Hemorrhage into the adrenal glands
- Tumors

Risk factors for the autoimmune type of Addison disease include other autoimmune diseases:

- Swelling (inflammation) of the thyroid gland that often results in reduced thyroid function (chronic thyroiditis)
- Thyroid gland produces too much thyroid hormone (overactive thyroid, Graves disease)
- Itchy rash with bumps and blisters (dermatitis herpetiformis)
- Parathyroid glands in the neck do not produce enough parathyroid hormone (hypoparathyroidism)
- Pituitary gland does not produce normal amounts of some or all of its hormones

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- Body does not have enough healthy red blood cells (pernicious anemia)
- Testicles cannot produce sperm or male hormones (testicular failure)
- Type I diabetes
- Loss of brown color (pigment) from areas of the skin (vitiligo)

Certain rare genetic defects may also cause adrenal insufficiency.

Symptoms

Symptoms of Addison disease may include any of the following:

- Abdominal pain
- Chronic diarrhea, nausea, and vomiting
- Darkening of the skin
- Dehydration
- Dizziness when standing up
- Low-grade fever
- Low blood sugar
- Low blood pressure
- Extreme weakness, fatigue, and slow, sluggish movement
- Darker skin on the inside of the cheeks and lips (buccal mucosa)
- Salt craving (eating food with a lot of added salt)
- Weight loss with reduced appetite

Symptoms may not be present all the time. Many people have some or all of these symptoms when they have an infection or other stress on the body. Other times, they have no symptoms.

Exams and Tests

The health care provider will perform a physical exam and ask about the symptoms.

Blood tests will likely be ordered and may show:

- Increased potassium
- Low blood pressure, especially with a change in body position
- Low cortisol level
- Low sodium level
- Low pH
- Normal testosterone and estrogen levels, but low DHEA level
- High eosinophil count

Additional laboratory tests may be ordered.

Other tests may include:

- Abdominal x-ray
- Abdominal CT scan

Treatment

Treatment with replacement corticosteroids and mineralocorticoids will control the symptoms of this disease. These medicines usually need to be taken for life.

Never skip doses of your medicine for this condition because life-threatening reactions may occur.

Your provider may tell you to increase your dosage for a short time because of:

- Infection
- Injury
- Stress
- Surgery

During an extreme form of adrenal insufficiency, called adrenal crisis, you must inject hydrocortisone right away. Treatment for low blood pressure is usually needed as well.

Some people with Addison disease (or family members) are taught to give themselves an emergency injection of hydrocortisone during stressful situations. Always carry medical ID (card, bracelet, or necklace) that says you have adrenal insufficiency. The ID should also say the type of medicine and dosage you need in case of an emergency.

Outlook (Prognosis)

With hormone therapy, many people with Addison disease are able to lead a nearly normal life.

Possible Complications

Complications can occur if you take too little or too much adrenal hormone.

When to Contact a Medical Professional

Call your provider if:

- You are unable to keep your medicine down due to vomiting.
- You have stress such as infection, injury, trauma, or dehydration. You may need to have your medicine adjusted.
- Your weight increases over time.
- Your ankles begin to swell.
- You develop new symptoms.
- On treatment, you develop signs of a disorder called Cushing syndrome

If you have symptoms of adrenal crisis, give yourself an emergency injection of your prescribed medicine. If it is not available, go to the nearest emergency room or call 911 or the local emergency number.

Symptoms of adrenal crisis include:

- Abdominal pain
- Difficulty breathing
- Dizziness or lightheadedness