

Addison's disease

Addison's disease (primary aderno-cortical insufficiency) is a rare condition that develops when the adrenal gland, located above the kidneys, are not able to produce enough of the hormones cortisol and, less commonly aldosterone.

Cortisol affects almost every organ in the body and is important for normal body function. The adrenal glands release cortisol to help the body to cope with stress from illness, injury, surgery, childbirth, or any other stressful reasons. Aldosterone helps the body retain and water and also maintain the blood pressure.

Cortisol production by the adrenal glands is controlled by the brain's hypothalamus and I the pituitary gland below the brain. The former signals the later to produce aderno-corticotropic hormone (ACTH) and which in turn stimulates the adrenal glands to produce cortisol. If the adrenal gland cannot produce enough cortisol, the condition is called primary adrenocortical insufficiency (hypocortisolism) or Addison's disease. When the hypothalamus or the pituitary gland is not working correctly to produce enough ACTH, the condition is called secondary adrenocortical insufficiency. Here only the primary adrenocortical insufficiency is discussed.

The cause

Addison's disease usually develops when the body's immune system destroys the part of the adrenal glands that produces cortisol and aldosterone. Addison's disease can also develop when the adrenal glands are destroyed by:

- Cancer that has spread to the adrenal glands. This is most often seen in lung cancer.
- Bleeding into the adrenal glands as a side effect of blood-thinning medicines.

- Infections, such as tuberculosis, HIV, or certain bacterial infections, such as meningococemia (caused by meningococcal bacteria in the bloodstream).
- Some types of surgery or radiation treatments.
- Injury to the adrenal glands during late stages of pregnancy or during the delivery process. (Rare).
- Using certain medicines, such as high doses of ketoconazole.

Addison's disease can affect people at any age, including children. The disease caused by the immune system destroying the gland is more frequent in women than men. But that caused by TB is more frequent in men.

The Symptoms

The most common symptoms are fatigue, weakness, and unexpected weight loss. The skin color may darken (hyper pigmentation). Other possible symptoms include lightheadedness, loss of appetite, restlessness, nausea, vomiting, diarrhea, weakness, confusion or a feeling of fearfulness, difficulty staying awake, high fever, and a craving for salt. In diabetics, episodes of hypoglycemia become more frequent and more severe. Symptoms usually develop slowly and often are not obvious until an adrenal crisis occurs because of a stressful event and the body is not able to produce enough cortisol to cope with the stress. If not treated, an adrenal crisis may be fatal because of shock from a steep drop in blood pressure. In few cases the disease develops very rapidly.

Diagnosis

Diagnosis is done by checking the patient's medical history, a physical examination and lab tests. The electrolytes has to be checked for high potassium, low or high sodium and chloride, cortisol and ACTH levels. If required imaging of the adrenal and pituitary glands and also the hypothalamus. Hydrocortisone or fludrocortisone are often

administered because they can function like the bodies own hormones. The dose of medicine may be increased during times of stress. In addition, extra salt must be taken with the food especially during the hot and humid weather to replace the body salt lost due to excessive sweating. It is advised to wear a medical alert bracelet as low levels of cortisol can lead to death. The treatment may be for life but in some cases it can be slowly phased out after proper evaluation. Anybody suffering from this disease can lead a long, healthy and almost normal life by following the medical advice.