Adrenal Insufficiency

Adrenal insufficiency is a condition in which the adrenal glands, located above the kidneys, do not produce adequate amounts of steroid hormones (chemicals produced by the body that regulate the function of other organs). There are many causes of adrenal insufficiency. Certain diseases cause permanent adrenal insufficiency while other conditions cause temporary adrenal insufficiency. Some medications can also result in temporary adrenal insufficiency. Adrenal insufficiency can also occur when the hypothalamus or the pituitary gland, located at the base of the brain, does not make adequate amounts of the hormones that assist in regulating adrenal function. The November 16, 2005, issue of JAMA includes an article about adrenal insufficiency.

**SYMPTOMS OF ADRENAL INSUFFICIENCY**

Typical symptoms of adrenal insufficiency include unusual tiredness and weakness, unintended weight loss, nausea, diarrhea, dizziness, loss of appetite, joint pain and belly pain, salt craving, and darkening of the skin. When levels of ACTH or CRH are affected, people can feel well most of the time but have low blood pressure or low blood sugar during times of extreme stress. To diagnose adrenal insufficiency, doctors need to determine blood levels of the steroid hormones and then perform other tests to determine the cause of any deficiency.

**TREATMENT OF ADRENAL INSUFFICIENCY**

If adrenal insufficiency is untreated, serious illness or even death can occur. Synthetic (manufactured) glucocorticoids that replace the deficient adrenal steroid hormones are the main treatment. They must be taken daily and as directed to keep the body in balance. Synthetic mineralocorticoid and androgen medications may also be necessary. If you have adrenal insufficiency and are sick or under physical stress, you may need to take glucocorticoids to counter the excess stress on your body. Discuss with your doctor the need for adequate glucocorticoid replacement if you are having surgery, major dental work, or other invasive procedures or if you are sick with a fever, vomiting, or diarrhea.

**MEDICAL ALERT BRACELET**

During an emergency, medical personnel need to know if you have adrenal insufficiency. It is very important that persons with adrenal insufficiency always wear a medical alert bracelet indicating the need for a lifesaving glucocorticoid injection. You should also carry a list of your current medications and their doses as well as your doctor's name and contact information. If you live in a remote area or are planning travel, your doctor can prescribe an injection kit for emergencies.

FOR MORE INFORMATION

- The Hormone Foundation 800/467-6663 [www.hormone.org](http://www.hormone.org)

INFORM YOURSELF

To find this and previous JAMA Patient Pages, go to the Patient Page link on JAMA’s Web site at [www.jama.com](http://www.jama.com). Many are available in English and Spanish.

Sources: National Institutes of Health, The Hormone Foundation

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