

# **AUTOIMMUNE ENDOCRINE DISORDERS**

## **Hormone Imbalances in Endocrine Disease**

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This article describes the autoimmune endocrine disorders and their effects on hormone levels.

### **Impaired Endocrine Gland Function**

Autoimmune endocrine disorders are diseases of the endocrine glands caused by an immune system defect known as autoimmunity. In autoimmunity, the immune system errs in its response and targets the body's tissues and cells. Most autoimmune endocrine disorders target single organs, for instance the adrenal gland is targeted in Addison's disease and the pancreas's Islet of Langerhans is affected in type I diabetes.

In patients with multiple autoimmune endocrine disorders and in patients with autoimmune polyglandular syndromes, two or more glands are affected. Autoimmune endocrine disorders include: Hashimoto's thyroiditis, Graves' disease, Addison's disease (adrenal gland insufficiency), autoimmune hypophysitis (pituitary gland insufficiency), autoimmune oophoritis (ovarian insufficiency), insulin dependent (type 1) diabetes mellitus (IDDM), autoimmune hypoparathyroidism, testicular insufficiency, and premature ovarian failure.

### **Multiple Endocrine Disorders**

Patients with organ specific autoimmune endocrine disorders such as type I diabetes or Graves' disease are more likely to develop a second autoimmune endocrine disorder than other people. Some of these people may have two co-existing glandular disorders and others may go on to develop one of the autoimmune polyglandular syndromes.

Autoimmune thyroid disorders are the most common autoimmune endocrine disorder, and they are also the disorder most likely to occur in people with other autoimmune endocrine disorders. For instance, it's not unusual for people with Addison's disease or type I diabetes to develop Hashimoto's thyroiditis years later. Even in the absence of autoimmune thyroid disease, a large number of patients with other endocrine disorders have high titers of thyroid antibodies.

### **Symptoms in Autoimmune Endocrine Disease**

The body's endocrine glands produce hormones that help regulate various functions including growth, metabolism, and reproduction. Autoimmune disorders usually damage endocrine glands thereby causing hormone deficiencies. The exception is Graves' disease, a disorder of excess thyroid hormone production. Symptoms of endocrine disease vary

depending on the particular gland affected. In type I diabetes, destruction of the pancreas results in diminished insulin production. Without adequate levels of insulin blood glucose levels rise.

Overall, deficiencies and excesses of hormones affect all of the bodily symptoms and consequently they cause a wide range of symptoms. Most people affected will have several predominant symptoms that can change over time rather than all symptoms associated with the disorder. Similar to most other autoimmune conditions, symptoms in endocrine conditions wax and wane, with periods of remission frequently alternating with periods of variable symptoms. Autoimmune endocrine disorders such as hypothyroidism, Addison's disease and premature ovarian failure are associated with fertility problems causing a condition of autoimmune infertility.

### **Treatment**

Treatment primarily consists of correcting the hormonal imbalance and suppressing the immune system with corticosteroids and other immunosuppressant agents. Because symptoms wax and wane, regular monitoring of hormone levels is necessary. Because of the high incidence of autoimmune thyroid disease in patients with other endocrine disorders, patients with other endocrine disorders should have routine screening tests for thyroid function and thyroid antibodies regularly.

Source: Robert Volpe, *Autoimmune Endocrinopathies*, 1999.

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