

## ACUTE ADRENAL INSUFFICIENCY

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**Annotation:** Adrenal insufficiency is a condition in which the adrenal glands do not produce adequate amounts of steroid hormones. The adrenal glands-also referred to as the adrenal cortex-normally secrete glucocorticoids (primarily cortisol), mineralocorticoids (primarily aldosterone), and androgens. These hormones are important in regulating blood pressure, electrolytes, and metabolism as a whole. Deficiency of these hormones leads to symptoms ranging from abdominal pains, vomiting, muscle weakness and fatigue, low blood pressure, depression, mood and personality changes (in mild cases) to organ failure and shock (in severe cases).

**Key Words:** vomiting, diarrhea, cyanosis, dehydration, hemi or tetraparesis, hallucinations, asthenia, adynamia, depression.

It is a catastrophic condition characterized by the danger of the patient's life as a result of a rapid or sudden decrease in the functional reserves of the adrenal cortex. The disease occurs equally in men and women at any age. The occurrence of the disease in newborns and pregnant women is called Waterhouse-Friedrichson syndrome.

Historical information: The disease was first recorded by Waterhouse in 1911 and by Friederichson in 1918.

### ETIOLOGY:

1. primary and secondary chronic adrenal insufficiency
2. birth trauma
3. meningococcal sepsis, which causes large hemorrhages in the cortex of the adrenal gland
4. bilateral adrenalectomies
5. hypo- and hyperplastic processes in the salivary gland and stress conditions (infections, surgical operations) against the background of long-term treatment with glucocorticosteroids
6. removal of glucosteroma of the second adrenal gland against the background of atrophy of one adrenal gland
7. congenital atrophy and dysfunction of the adrenal cortex
8. acute necrosis of adrenal glands
9. Adrenal vein thrombosis under the influence of toxic agents (alcohol, chloroform).
10. excessive use of anticoagulants

11. major traumatic operations
12. metastasis of tumors of other organs to the adrenal gland

**PATHOGENESIS:** pathogenesis is based on a sudden deficiency of corticosteroid hormones (gluco- and mineralocorticoids).

**CLASSIFICATION:**

1. primary: as a result of primary damage to the adrenal gland
2. secondary: with hypothalamic-pituitary origin

**CLINICAL:** acute adrenal insufficiency caused by apoplexy (Waterhouse-Friedrichson syndrome) has the same symptoms as an Addisonian crisis, except that its development occurs very quickly in a few hours. Waterhouse-Friedrichson syndrome consists of specific features. The disease begins suddenly and is latent, lethality occurs in the first days. Patients develop headache, shortness of breath, severe abdominal pain, vomiting, diarrhea, sudden nervous excitability, convulsions, chills, high temperature, cyanosis, large-scale hemorrhages on the skin, severe collapse, and sudden drop in blood pressure. Death occurs from collapse, pulmonary edema, and dehydration. The following clinical variants of the disease are distinguished:

1. depends on the cardiovascular system - collapse and blood pressure drop to 0
2. related to the gastrointestinal system - nausea, vomiting, anorexia, diarrhea, severe pain in the abdomen reminiscent of acute diseases of the abdominal organs
3. Nervous-psychic-excitability, hallucinations, asthenia, adynamia, depression.

Acute adrenal insufficiency caused by bleeding into the adrenal glands as a result of anticoagulant treatment is characterized by abdominal pain and sudden collapse.

Characteristic symptoms of acute adrenal insufficiency during surgery are rapid vascular collapse and paralysis of the respiratory center. The amount of cortisol and fluorogenic corticosteroids in the blood serum is determined when diagnosis is difficult. The amount of cortisol in the blood will be reduced. Fluorogenic corticosteroids are determined before and 30 and 60 minutes after administration of 0.25 mg of ACTG v\i or m\o. Corticosteroids increase by 2 times after administration of ACTG.

**DIFFERENTIAL DIAGNOSTICS:**

1. With acute diseases of the organs of the abdominal cavity - in the case of acute adrenal cortex insufficiency, the signs of exposure to the peritoneum are negative, severe collapse, eosinophilia and pronounced hypoglycemia are characteristic, and leukocytosis is observed in the acute abdomen.
2. With myocardial infarction - severe pain in the heart area, characteristic laboratory changes and ECG symptoms, low blood corticosteroids and hypoglycemia are not observed.
3. With a stroke - with high blood pressure, hemi or tetraparesis, and no signs of acute adrenal insufficiency.

**PREVENTION:**

1. Early diagnosis of this condition
2. Active identification and dispensary control of patients with Addison's disease
3. Dispensary monitoring of patients receiving long-term glucocorticosteroids for the treatment of various chronic diseases

4. Timely use of corticosteroids in stressful situations (operations, infections) in patients with suspected adrenal cortex hypofunction
5. Doubling the dose of corticosteroids in stressful situations and bilateral adrenalectomies in patients with Addison's disease

TREATMENT: as in Addisonian crisis. Treatment is carried out in an inpatient setting. High-dose antibiotics and sulfonamide drugs are prescribed to fight infection.

CONCLUSION: Acute adrenal failure can be lethal and should be considered in patients with otherwise unexplained hypotension. When adrenal insufficiency develops more gradually, systemic manifestations include fatigue, weight loss, hyperpigmentation, hypotension, hyponatremia, hyperkalemia, and gastrointestinal symptoms.

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