SIMMONDS-SHIEN (SHEEHAN SYNDROME) PANHYPOPITUITARISM

Rajabova Dildora
Asian International University, lecturer.

https://doi.org/10.5281/zenodo.15493633

Abstract. *In embolism, tuberculosis, and ulcerative diseases of the hypothalamic-pituitary system, patients with damage (necrosis) of the anterior pituitary gland experience cachexia, atrophy of internal organs, and decreased function of the gonads. As the disease progresses, the patient's general condition worsens.*

Keywords: b*rain, portal system, disease, muscle, pituitary gland.*

Pangipopituitarism is a lesion of the hypothalamic-pituitary system, characterized by decreased pituitary function and insufficiency of peripheral endocrine glands. This syndrome includes two diseases:

Simmonds' disease and Sheehan's disease. Simmonds' disease is a severe degree of insufficiency of the hypothalamic-pituitary system, the main cause of which is pituitary necrosis, characterized by cachexia and polyendocrine insufficiency. The disease occurs more often in women. Sheehan's disease (postpartum panhypopituitarism) is a hypothalamic-pituitary insufficiency that occurs in women after massive hemorrhage during childbirth or, rarely, septic conditions.

ETIOLOGY:

The main causes of Schieden's disease

1. Massive postpartum hemorrhage (more than 1 liter), collapse, severe septic conditions leading to septic embolism of the veins of the pituitary portal system
2. Frequent and repeated pregnancies
3. Severe toxicosis in the second half of pregnancy

Simmonds' disease occurs in both women and men, and its causes are as follows

1. Infectious-inflammatory processes in the hypothalamic-pituitary zone
2. Cerebral circulatory disorders of various genesis, which injure the hypothalamic-pituitary zone
3. Brain injuries
4. Radiation therapy in the hypothalamic-pituitary zone
5. Surgical operations on the hypothalamic-pituitary zone (hypophysectomy)
6. Primary and metastatic tumors
7. In the hypothalamic-pituitary zone diseases that cause destructive processes: tuberculosis, malaria, syphilis, sarcoidosis
8. Severe bleeding of various etiologies (gastrointestinal, uterine, renal, etc. bleeding)
9. Unknown etiology (idiopathic)

PATHOGENESIS:

Massive bleeding and septic embolism lead to impaired blood circulation in the pituitary gland, spasm of the pituitary portal system, hypoxia, necrosis and complete or partial decrease in pituitary function, as well as the development of secondary insufficiency of the function of many endocrine glands (polyglandular endocrine insufficiency) - adrenal glands, gonads and thyroid glands. When the neurohypophysis or pituitary stalk is involved, diabetes insipidus is also added to the process.

In Schein's disease, sometimes the symptoms may be less pronounced and a certain function of the adenohypophysis may be impaired, for example, only secondary hypothyroidism or secondary adrenal insufficiency may be observed.

CLINICAL:

The clinical manifestations of Simmonds' and Schein's diseases are similar, but in Simmonds' disease, the first thing that occurs is progressive weight loss, with a loss of 3-6 kg of body weight per month, resulting in cachexia (pituitary cachexia). Appetite is suddenly reduced or absent, patients eat very little food or refuse to eat. Weight loss is uniform throughout the body, and the subcutaneous fat layer is lost uniformly everywhere. In Schein's disease, weight loss is less pronounced. Objective: the skin is dry, flaky, flaky, yellowish-white, the hair turns gray and falls out early and quickly, the face is wrinkled, the teeth fall out. Premature aging quickly develops. General weakness, apathy, adynamia, fainting, collapses are observed.

Hypothalamo-pituitary cachexia, postpartum hypopituitarism - is characterized by widespread destructive changes in the adenohypophysis and the diencephalon, resulting in partial or complete deficiency of all hormones of the adenohypophysis. The disease most often occurs in women aged 30-40 years.

Historical data: the disease was first described in 1913 by Glinsky and in 1914 by Simmonds. The fact that the disease develops after massive postpartum hemorrhage was first described by Sheehan in 1939.

ETIOLOGY:

1) hemorrhages, especially massive postpartum hemorrhages (more than 1 liter)

2) tumors of the hypothalamic-pituitary system

3) infectious processes in the hypothalamic-pituitary system (syphilis, tuberculosis, influenza, typhus, etc.)

4) hemorrhages in the adenohypophysis after head trauma

5) hypophysectomies

6) acute necrosis of the adenohypophysis as a result of arteriolar spasm due to massive blood loss during childbirth and abortion

7) septic embolism of the adenohypophysis vessels

PATHOGENESIS: Due to destructive changes in the hypothalamus and adenohypophysis, there is a deficiency in the secretion of all hormones produced by the anterior pituitary gland. As a result, peripheral glands often have a decrease in the function of the thyroid gland, adrenal cortex, and gonads. Low production of GH leads to atrophic processes in organs and tissues.

CLINICAL: patients develop weakness, apathy, swelling of the face and limbs, weight loss, loss of appetite, even the patient refuses to eat, alternating diarrhea and constipation, drowsiness, headache, decreased libido and potency, dysmenorrhea, etc. The body's resistance to infections decreases. Premature aging develops. Objective: the skin is dry, atrophied, pale or earthy, hair is sparse, in the armpits and groin areasThere is no visible hair, subcutaneous fat is poorly developed or not developed, the lower jaw is atrophied, caries or loss of teeth is observed.

The size of internal organs is reduced (splanchnomicria), patients are prone to bradycardia and collapse even with slight physical exertion, heart tones are muffled, arterial hypotension is observed. On the ECG, low voltage of the teeth, signs of bradycardia and myocardial dystrophy are visible.

Due to a decrease in gastric secretion and the function of the endocrine pancreas, changes in the digestive system (dyspeptic changes, nausea, vomiting) occur. Intestinal prolapse and atony develop. From the nervous and mental system, severe apathy, memory loss, depression, drowsiness, hallucinations, negativism, and symptoms of schizophrenia are observed. Due to optic nerve atrophy, vision is impaired or the field of view is limited.

From the endocrine system - diabetes insipidus develops due to damage to the hypothalamus and pituitary gland, thyroid function decreases (dry skin, bradycardia, constipation, hypothermia, etc.), adynamia, arterial hypotension, hypoglycemia due to decreased adrenal cortex function, loss of secondary sexual characteristics due to decreased gonadal function, dysmenorrhea in women, impotence and hypoplasia of the penis are observed.

When thyroid insufficiency predominates, it is accompanied by swelling of the face and limbs.

In some patients, a crisis or hypothalamic-pituitary coma develops. The following are considered provoking factors: physical or mental trauma, operations, anesthesia, hypothermia, careless use of narcotics, insulin and barbiturates, etc. The crisis or coma often begins gradually, rarely acutely. The following clinical variants of hypothalamic-pituitary coma are distinguished:

1) Hypothyroid (drowsiness, hypothermia, bradycardia, constipation)

2) Hypoglycemic (hunger, mental agitation, decreased blood sugar)

3) Hyperthermic (comorbid infection predominates)

4) Disturbances of water-salt metabolism (dehydration, hyperkalemia, hyponatremia)

Laboratory changes: Decreased levels of ACTH, TSH, FSH, LH, GH in the blood, normochromic or hypochromic anemia, leukopenia, neutropenia, eosinophilia, hyponatremia, hypochloremia, hyperkalemia, hypoglycemia, decreased levels of 17-OX. 17-OKS, 17-KS gonadotropin and estrogen excretion in daily urine decreased. Blood levels of ACTG, TTG, MSG, FSG, LG, STG, T4, T3, cortisol decreased in crisis and hypothalamo-pituitary coma.

Hypercholesterolemia when the pathology of the thyroid gland predominates, and hyponatremia, hypochloremia, hyperkalemia, increased levels of residual nitrogen and urea, and hypoglycemia are observed when the pathology of the adrenal gland predominates.

X-ray diagnostics: in pituitary tumors, the turkish saddle is enlarged and changed in shape. In some cases, osteoporosis is observed in the bones.

Hormonal diagnostic test: Thyrotropin test - after subcutaneous injection of 10 IU of thyrotropin, the thyroid gland absorbs 50% or more of radioactive iodine, indicating hypothyroidism of central (pituitary) genesis.

DIFFERENTIAL DIAGNOSIS: The disease is differentially diagnosed with all diseases accompanied by cachexia:

1) With malignant tumors - in which atypical cells are found, more often in men, changes in the blood and hair loss on the body are not characteristic.

2) With tuberculosis - in which the history is hereditary, subfebrile temperature, the presence of Koch bacilli in the blood and sputum, changes in the blood and hair loss on the body are not characteristic.

3) With anorexia nervosa - this often occurs in girls aged 13-14, occurs after a history of severe mental trauma, conflict situations and diets aimed at losing weight, changes in blood and hair loss on the body are not characteristic.

PROPHYLAXIS:

1) Prevention of postpartum infections

2) Prevention of postpartum sepsis
3) Prevention of postpartum shock
4) Prevention of postpartum hemorrhage
5) Prevention of postpartum trauma

REFERENCES

1. Namozov, E. (2024). КЛИНИКО-МОРФОЛОГИЧЕСКИЕ ФОРМЫ РАКА МОЧЕВОГО ПУЗЫРЯ. *Modern Science and Research*, *3*(12), 911-914.
2. Namozov, E. (2024). ОПУХОЛИ ПОЧЕК. *Modern Science and Research*, *3*(11), 884-886.
3. Namozov, E. (2024). PRECANCEROUS DISEASES OF THE STOMACH. *Modern Science and Research*, *3*(10), 506-508.
4. Namozov, E. (2025). CLINICAL COURSE AND METHODS OF TREATMENT OF MALIGNANT TUMOR OF THE SIGMOID COLON. *Modern Science and Research*, *4*(1), 651-655.
5. Jo'rayeva, G. (2024). COMBINATION OF DIABETES AND METABOLIC SYNDROME. *Modern Science and Research*, *3*(12), 691-696.
6. Jo'rayeva, G. (2025). RISK FACTORS FOR THE DEVELOPMENT OF CLIMACTERIC DISORDERS IN WOMEN WITH THE METABOLIC SYNDROME. *Modern Science and Research*, *4*(1), 1090-1092.
7. Namozov, E. (2024). КЛИНИКО-МОРФОЛОГИЧЕСКИЕ ФОРМЫ РАКА МОЧЕВОГО ПУЗЫРЯ. *Modern Science and Research*, *3*(12), 911-914.
8. Namozov, E. (2024). ОПУХОЛИ ПОЧЕК. *Modern Science and Research*, *3*(11), 884-886.
9. Namozov, E. (2024). PRECANCEROUS DISEASES OF THE STOMACH. *Modern Science and Research*, *3*(10), 506-508.
10. Namozov, E. (2025). CLINICAL COURSE AND METHODS OF TREATMENT OF MALIGNANT TUMOR OF THE SIGMOID COLON. *Modern Science and Research*, *4*(1), 651-655.
11. Jo'rayeva, G. (2024). COMBINATION OF DIABETES AND METABOLIC SYNDROME. *Modern Science and Research*, *3*(12), 691-696.
12. Jo'rayeva, G. (2025). RISK FACTORS FOR THE DEVELOPMENT OF CLIMACTERIC DISORDERS IN WOMEN WITH THE METABOLIC SYNDROME. *Modern Science and Research*, *4*(1), 1090-1092.