



Major Causes of Thyroid Storm, Diagnosis and Treatment

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DESCRIPTION

A thyroid storm (also called thyroid crisis and thyrotoxicosis crisis) occurs when the thyroid gland secretes too much thyroid hormone for a short period of time. It is a rare complication of hyperthyroidism. Thyroid storm is a medical emergency and life-threatening. Thyroid storm is a life-threatening medical condition associated with untreated or undertreated hyperthyroidism. During a thyroid storm, a person's heart rate, blood pressure, and body temperature can rise to dangerous levels. Without prompt and aggressive treatment, thyroid storms are often fatal. The thyroid gland is a small, butterfly-shaped gland located in the middle under the neck. Two essential thyroid hormones produced by the thyroid are triiodothyronine (T3) and thyroxine (T4). They control the rate at which each cell in the body functions (metabolism). In hyperthyroidism, the thyroid gland produces too much of these two hormones. This causes all cells to work too fast. For example, the breathing and heart rate are higher than normal it leads to speak much faster than usual. Thyroid storm, also known as thyrotoxic crisis, is an acute and life-threatening complication of hyperthyroidism. This is an exaggerated depiction of thyrotoxicosis. It involves the sudden involvement of multiple systems. Mortality associated with thyroid storms has been estimated at 8 to 25, despite modern advances in treatment and supportive measures. Therefore, early detection and initiation of aggressive treatment to reduce mortality is critical.

Health care providers diagnose thyroid storm when usually have severe, life-threatening symptoms, such as extreme fevers, heart problems, and elevated thyroid hormone levels or low Thyroid-Stimulating Hormone (TSH) levels in the blood. Because a thyroid storm can be life-threatening and requires immediate medical attention, health care providers often prescribe a thyroid storm before they have blood test results that show the level of thyroid hormones in the blood. Diagnose and treat people with symptoms of Health care providers can also rely on physical exams

to look for physical signs of thyroid storm, such as: Goiter if the thyroid gland is enlarged. It is a complication of ophthalmopathy and Graves' disease, and causes eye problems such as swelling and protrusion of the eyeball. Thyroid storm is a serious, life-threatening condition.

Fortunately, it's rare and treatable. See a doctor right away if any symptoms of thyroid storm, such as a high fever or rapid heart rate. If the hyperthyroidism, like Graves' disease, talk to the doctor about a thyroid storm and ask how we can prevent it. People with hyperthyroidism who experience symptoms of thyroid storm are usually admitted to the emergency room. People with hyperthyroidism typically have an increased heart rate and high upper blood pressure (systolic blood pressure).

Doctors will measure the thyroid hormone levels with a blood test. Thyroid-stimulating hormone (TSH) levels tend to be low in hyperthyroidism and thyroid storm. According to the American Association for Clinical Chemistry (AACC), normal values for TSH range from 0.4 to 4 milli International Units per liter (mIU/L). T3 and T4 hormones are higher than normal in people with thyroid storm. The most effective way to prevent a thyroid storm from occurring is to follow a thyroid health plan. Take the medicine as directed. Keep all appointments with the doctor and get blood tests if needed.

The pathophysiologic basis for inducing thyroid storm in patients with thyrotoxicosis is unknown. However, as mentioned above, a triggering factor is always required to cause a thyroid storm. Several hypotheses have been proposed. One theory holds that the onset of thyroid storm may occur during thyroid surgery, after treatment with radioactive iodine, after abrupt discontinuation of antithyroid medications, or with large doses of iodine in controlled studies. Increased sympathetic nervous system activity and responses to catecholamines, and increased cellular responses to thyroid hormone during acute stress or infection, release cytokines and alter immune impairment are also possible mechanisms of thyroid storm.

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