



Chronic Exposure and Complications of Hormone Related Endocrine Disorders

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DESCRIPTION

Endocrine disorders are a type of disorders associated with the body's endocrine glands (the glands that produce hormones). These disorders can affect multiple parts of the body and present with different symptoms depending on which gland is affected. The endocrine system is made up of several glands, the key function of which is to produce and release various hormones into the bloodstream. The endocrine system has eight major glands throughout the body. These glands produce hormones. Hormones are chemical messengers. They travel through the bloodstream to tissues and organs. Hormones act slowly and affect bodily processes from head to toe. Endocrine disorders result from dysfunction of the endocrine system, including glands that secrete hormones, receptors that respond to hormones and organs that are directly affected by hormones. Any one of these points can malfunction and have far-reaching effects on the body. Endocrine disorders are most often the result of hormonal imbalances, conditions characterized by excess or deficiency of hormones. The endocrine system regulates the release of hormones into the bloodstream. These hormones are important for many bodily processes such as reproduction, metabolism, and growth. The endocrine system consists of:

Pituitary gland

A major endocrine gland, a pea-sized body attached to the base of the brain is important in controlling growth and development and the function of other endocrine glands. It regulates growth, metabolism, and reproduction through the hormones it produces. Production of these hormones is stimulated or inhibited by chemical messages sent from the hypothalamus to the pituitary gland. The posterior lobe produces the two hormones, vasopressin, and oxytocin.

Thyroid

The thyroid gland is an important endocrine gland. It plays an

important role in the metabolism, growth, and development of the human body. By constantly releasing an amount of thyroid hormone into the bloodstream, it helps regulate many bodily functions located in the throat, this gland helps regulate metabolism and growth. There are many possible causes, including autoimmune diseases, treatment for hyperthyroidism, radiation therapy, thyroid surgery, and certain medications [1].

Parathyroid

Parathyroid glands lie behind the thyroid. They produce parathyroid hormone, which plays a role in regulating blood levels of calcium and phosphorus in the body. Hyperparathyroidism is when the parathyroid glands produce large amounts of parathyroid hormone in the bloodstream. The parathyroid glands produce parathyroid hormone, which plays an important role in regulating blood calcium levels [2].

Adrenal

The adrenal glands also called suprarenal glands, which are small triangular glands located in both kidneys. The adrenal glands produce hormones that help regulate metabolism, the immune system, blood pressure, response to stress, and other vital functions. A condition caused by a large adrenal gland cancer that presses on nearby organs. As adrenal cancer grows, it presses on nearby organs and tissues. This can cause pain near the tumor, bloating in the abdomen, or eating problems due to feeling full.

Pineal gland

The pineal gland, also known as the epiphysis, is a small gland in the brain located behind the corpus callosum. It is part of the endocrine system and secretes the hormone melatonin. Stimulating the pineal gland through the sympathetic innervation pathway produces N-acetyl serotonin and melatonin. Melatonin has many therapeutic roles and is heavily involved in regulating the sleep-wake cycle.

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Hypothalamus

The hypothalamus is a structure deep in the brain. It is the main link between the endocrine and nervous systems. The hypothalamus keeps the body in balance in a steady state called homeostasis. The hypothalamus is a gland in the brain that controls the endocrine system. It secretes hormones into another part of the brain called the pituitary gland, which sends hormones to various organs.

Pancreas

The pancreas is an organ and a gland. Glands are organs that produce and release substances in the body. The pancreas performs two main functions.

Exocrine function: Produces substances (enzymes) that aid digestion [3].

Endocrine function: It sends out hormones that control the amount of sugar in the bloodstream. One can live without a pancreas. However, when the entire pancreas is removed, the cells that produce insulin and other hormones that help maintain safe blood sugar levels are lost. These people develop diabetes, which can be difficult to manage as they are completely dependent on insulin injections [4].

Thymus

The thymus is a small gland that is part of the lymphatic system. The lymphatic system consists of a network of tissues, blood vessels, and organs such as the tonsils, spleen, and appendix. The lymphatic system is part of the immune system. Helps fight off infections and illnesses. The thymus is a small organ located in the upper part of the chest below the breastbone. It forms white blood cells called lymphocytes that protect the body from infection.

Testicles

The testicles are involved in the production of sperm and are also involved in the production of a hormone called

testosterone. Testosterone is a key hormone during male development and maturity for building muscle, deepening the voice, and growing body hair [5].

Ovary

The ovaries produce eggs and hormones such as estrogen and progesterone. These hormones support the development of girls and enable women to have babies. The ovaries release eggs as part of a woman's menstrual cycle [6].

CONCLUSION

The duration of surgery depends on the endocrine disorder and the complexity of the procedure. For example, removing part of the thyroid gland may take about an hour. However, total thyroidectomy, which removes the cancerous thyroid and nearby lymph nodes, can take up to 3 hours. Thyroidectomy is a treatment for various thyroid diseases. Thyroidectomy is a common but major surgery with serious risks and potential complications.

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