Journal of Endocrinology and Diabetes Research

Commentry A SCITECHNOL JOURNAL

Microscopically, the Functional Unit of the Thyroid Gland is the Spherical Thyroid Follicle, Lined with Follicular Cells and Occasional Parafollicular Cells that Surround a Lumen Containing Colloid.

Claire Morgan*

Department of Endocrinology and Diabetes, University of Chicago, USA

***Corresponding author:** Claire Morgan, Department of Endocrinology and Diabetes University of Chicago, USA, Email: claire.morgan005@edu.us

Received date: October 08, 2021; **Accepted date:** October 19, 2021; **published date:** October 27, 2021

Description

The thyroid, or thyroid gland, is an endocrine gland in vertebrates. In humans it is in the neck and consists of two connected lobes. The lower two thirds of the lobes are connected by a thin band of tissue called the thyroid isthmus. The thyroid is located at the front of the neck, below the Adam's apple. The thyroid gland secretes three hormones: the two thyroid hormones – triiodothyronine (T3) and thyroxine (T4) – and a peptide hormone, calcitonin. The thyroid hormones influence the metabolic rate and protein synthesis, and in children, growth and development. Calcitonin plays a role in calcium homeostasis Secretion of the two thyroid hormones is regulated by thyroid-stimulating hormone (TSH), which is secreted from the anterior pituitary gland. TSH is regulated by thyrotropin-releasing hormone (TRH), which is produced by the hypothalamus the thyroid gland develops in the floor of the pharynx at the base of the tongue at 3–4 weeks gestation; it then descends in front of the pharyngeal gut, and ultimately over the next few weeks, it migrates to the base of the neck. During migration, the thyroid remains connected to the tongue by a narrow canal, the thyroglossal duct. At the end of the fifth week the thyroglossal duct degenerates, and over the following two weeks the detached thyroid migrates to its final position.

Euthyroid is the term used to describe a state of normal thyroid function in the body. Thyroid disorders include hyperthyroidism, hypothyroidism, thyroid inflammation (thyroiditis), thyroid enlargement (goitre), thyroid nodules, and thyroid cancer. Hyperthyroidism is characterized by excessive secretion of thyroid hormones: the most common cause is the autoimmune disorder Graves' disease. Hypothyroidism is characterized by a deficient secretion of thyroid hormones: the most common cause is iodine deficiency. In iodine-deficient regions, hypothyroidism secondary to iodine deficiency is the leading cause of preventable intellectual disability in children

Blood, lymph and nerve supply

The thyroid is supplied with arterial blood from the superior thyroid artery, a branch of the external carotid artery, and the inferior thyroid artery, a branch of the thyrocervical trunk, and sometimes by an anatomical variant the thyroid ima artery, which has a variable origin The superior thyroid artery splits into anterior and posterior branches supplying the thyroid, and the inferior thyroid artery splits into superior and inferior branches. The superior and inferior thyroid arteries join together behind the outer part of the thyroid lobes. The venous blood is drained via superior and middle thyroid veins, which drain to the internal jugular vein, and via the inferior thyroid veins. The inferior thyroid veins originate in a network of veins and drain into the left and right brachiocephalic veins. Both arteries and veins form a plexus between the two layers of the capsule of the thyroid gland. Lymphatic drainage frequently passes the prelaryngeal lymph nodes (located just above the isthmus) and the pretracheal and paratracheal lymph nodes.

References

1. Cuvelier P, Biet A, Boute P, Laude M, Strunski V (2009) Thyroid tubercle of Zuckerkandl: Anatomical and surgical experience from 79 thyroidectomies. J Laryngol Otol 123: 768-71.
2. Kim DW, Jung SL, Baek JH, Kim J, Ryu JH, et al. (January 2013) The prevalence and features of thyroid pyramidal lobe, accessory thyroid, and ectopic thyroid as assessed by computed tomography: a multicenter study. Thyroid 23: 84–91.
3. Zoeller RT (2003) Transplacental thyroxine and fetal brain development. J Clin Investig 111: 954–7.
4. Bianco AC, Salvatore D, Gereben B, Berry MJ, Larsen PR (2002). Biochemistry, cellular and molecular biology, and physiological roles of the iodothyronine selenodeiodinases. Endocr Rev 23: 38–89.
5. Uhlén M, Fagerberg L, Hallström BM, Lindskog C, Oksvold P, et al. (2015) Proteomics. Tissue-based map of the human proteome. Science 347: 120-135.

Citation: *Morgan C (2021) Microscopically, the Functional Unit of the Thyroid Gland is the Spherical Thyroid Follicle, Lined with Follicular Cells and Occasional Parafollicular Cells that Surround a Lumen Containing Colloid. Res J Zool 3:5.*