



ANATOMY OF THE THYROID GLAND, DISEASES AND METHODS OF TREATING THE DISEASE

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Abstract

This article will talk about the anatomy of the thyroid gland, which is important in the human body, and the diagnosis of diseases, diseases that occur in it. In the body, the endocrine glands are hormonal controlled.

Keywords

thyroid gland, glandula thyreoidea, diffuse, nodular, mixed bullous, thyroid tumors.

Anatomy of the thyroid gland:

The thyroid gland is an internal secretion gland of humans and animals. The development of the thyroid gland begins during pregnancy, and when a child reaches 1 year of age, its weight is 1-2 G. In the process of growth, it grows larger and reaches 20-22 g. The thyroid gland develops from the epithelium of the embryonic jabra sac. The thyroid gland is fully formed in 8-9 months of the development of the human embryo and begins to secrete a hormone, which is located on the neck, in the area of the hiccups; consists of 2 blacks and a neck. The thyroid gland is supplied with blood by a pair of superior and a pair of inferior arteries, and sympathetic and parasympathetic nerve fibers Innervate. It produces the iodine-containing hormone thyroxine (T4), triiodothyronine (TZ) and tyreocalcitonin, which are involved in the regulation of the metabolism of matter and energy in the body. The function of the thyroid gland is controlled by the central nervous system, and its activity is controlled by the pituitary gland.

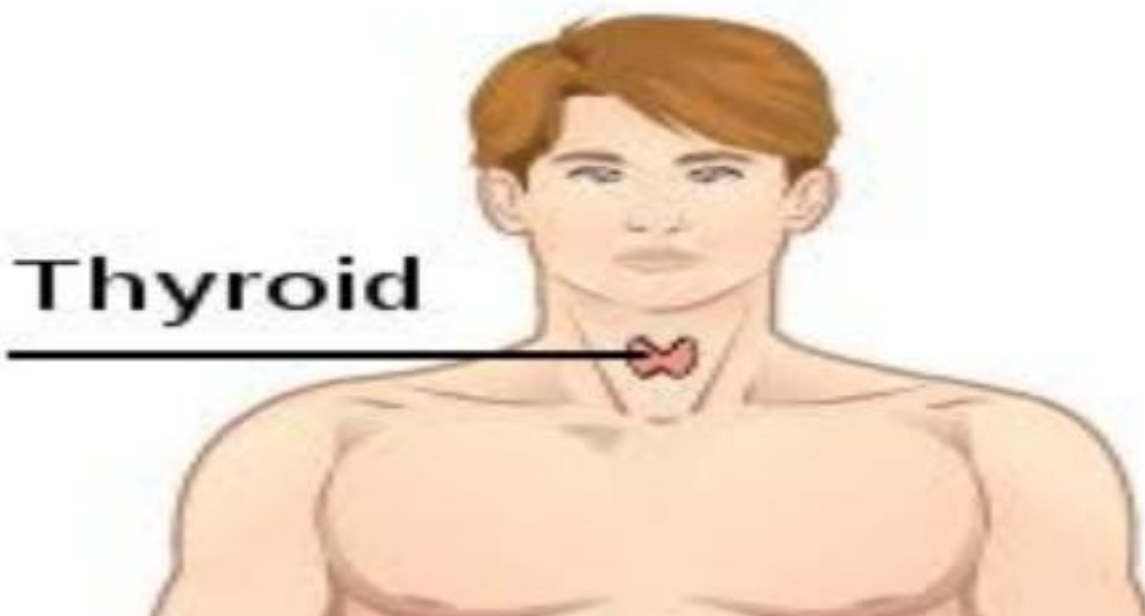


Figure 1 location of the thyroid gland

The fact that Uzbekistan is an endemic bullfight has been known since last centuries, but the study of thyroid diseases in our country, the process of its treatment, prevention and development of surgery began from the middle of the 20th century. To its development from the researchers of our country: M.S. Astrov, S.A. Maasumov, R.Q. Islambekov, Yo.X. Turakulov and others made significant contributions. In Particular, S.A. Together with a number of people of science, Ma'sumov organized and carried out research work on a number of expeditions on the endemic foci of the bull in Uzbekistan, and developed a number of measures for the prevention and treatment of bull disease. In Particular, O.V. Nikolaev proposed, widely known – the refinement of the subtotal strumectomy method of surgery. ” The bull is an enlargement of the thyroid gland that is characteristic of this geografikmuhit, " the definition also says.A. Belongs to Ma'sumov. In our country, today there are more than 15 endemic foci, with an increase in the size of the thyroid gland in almost 10-20% of the population. This was demonstrated in the first gal, as a result of a deficiency of iodine in drinking water and nutrients in the environment and water bodies. Anatomical-physiological data. Wharton, the name for the thyroid gland (glandula thyreoidea), gave it in 1656 due to its resemblance to a shield (thyreos – Greek shield). The gland is located at the front level of the neck, in the area of the I-IV tracheal rings of the annular vertebrae, and is made up of two fragments and the one that holds them together – the cervical part. The weight of the gland reaches \approx 25-30 grams in the norm in a person who has reached puberty, and in Uzbekistan, in its conditions, it is slightly enlarged, which can be up to \approx 40-50 grams, especially in endemic foci. The gland is covered with the fourth fascia of the neck, located between the inner (thin) and outer (thick) leaflets, through which arterial blood vessels pass.

The thyroid gland is mainly supplied with blood by 4 arterial vessels: a pair from the branches of the external sleeping artery – the upper thyroid arteries and a pair from the spinal artery – the lower thyroid arteries. Sometimes the blood supply is attended by the aortic ravine and the fifth odd artery, which branches from an unnamed artery. Innervation is mediated by sympathetic and parasympathetic nerve fibers. Thyroid iodized hormones

- directly involved in the production of the hormones thyroxine, triiodothyronine (T3), tetraiodthyronine (T4), as well as non-iodinated tyreocal, tyreocalcitonine.

For the formation of hormones, the amino acid iodine and tyrosine serve as the main components. Iodine gets into the human body with food, water, air and in the composition of organic, as well as inorganic compounds. The amount of organism's body varies somewhat, its excess is excreted in urine (98%) and herbivory (2%).

Iodine compounds form potassium and sodium iodides in the blood, which can be converted into ordinary iodine under the influence of oxidizing enzymes (peroxidase and cytochromoxidase). In the thyroid gland, on the other hand, compounds of iodine with protein are formed. Iodine atoms form compounds with tyrosine protein (tyrosine amino acid residue) that do not have hormonal activity (iodized tyrosines): monoyodtirosine (MYT) and diodtirosine (DYT). These, in turn, serve as the primary substrate in the conversion to active thyroid hormones: thyroxine, tetraiodthyronine (T4), and triiodthyronine (T3).

Thyroxine, which has fallen into the vein from the thyroid gland, binds to whey proteins, as a result of which the concentration of bound (protein) iodine in the blood increases, determining its amount, the thyroid gland becomes of diagnostic importance as an indicator of secretory activity.

Between the central nervous system, the pituitary gland and the thyroid gland, there are direct and axial connections, the synthesis of thyroid hormones, as well as its production, through which they are controlled. When the amount of iodine – retaining hormones increases, the tyreotropic activity of the pituitary increases, and on the contrary, when they lack-increases. Increased thyroid hormone processing leads not only to an increase or decrease in thyroid function, but also to diffuse or nodular hyperplasia of the gland.

Thyroxine and triiodtironine stimulate the oxidation processes that occur in the human body, increase the oxygen consumption necessary for the normal growth of cells and tissues, play an important role in the exchange of salt and water, and improve the synthesis of proteins. They increase the absorption of glucose and galactose in the intestines, their expenditure in cells, increase the breakdown of glycogen, reduce its amount in the liver, seriously affect fat metabolism. Thyroid hormone tyreocalcitonin-together with the hormone of the paracalconeal glands, directly regulates the exchange of calcium and phosphorus substances in the body. Verification methods. General information about the shape, size, consistency and

mobility of the thyroid gland can be collected by examining it objectively and palpating the gland. Gluing the gland allows you to determine whether there is a bulge or not, the location of the change (right or left arm, neck, "hidden" bulge), its mobility in swallowing movements, the character of hyperplasia (nodular, diffuse bulge), bulging neck veins and signs characteristic of thyroid dysfunction (restless hatti-movements of the patient, eye symptoms, fingertitration, asthenization, etc.).

Relevance of the topic:

thyroid gland metabolism in the human body is a control center. He is often called a health guardian because he behaves the same as soon as any problems occur: irritability, lack of mood, fatigue and drowsiness. Although problems with the thyroid gland can be more common in women, such an ailment is also often noted in men. The thyroid gland is one of the most important organs of our body. Despite its small size and weight (about 20 grams), it is really a producer of vital energy. The thyroid gland produces thyroxine, triiodothyronine, without which the production of energy in the body does not take place. This energy is focused on the work of all human systems and organs.



Figure 2. Bull types (diffuse, knotted and mixed bull).

Radioactive substances (I131 and b.) examination with the study of the inorganic and organic stages of the iodine exchange process, making it possible to draw conclusions about the peripheral stage of the production of iodine and hormones. In the norm, if the accumulation of I131 in the thyroid gland is 5-10% after 2 hours, then 20-30% after 24 hours. When the activity of the thyroid gland increases, the amount of this indicator is slightly higher. Stsintigraphy makes it possible to determine the boundaries and sizes of the thyroid gland, to determine the presence of tumor structures, metastases or aberrant glandular tissue. Including: in a nodular Bull, a large accumulation of I131 in a certain area of the thyroid gland ("issic node") – indicates its functional hyperactivity, the presence of foci ("cold node") in the tissue of which the drug is not absorbed – often indicates its dangerous nature or the presence of changes in the cyst, calcification, blood transfusion or fibrosis.

The hormones T3 and T4 are tested using radioimmune methods. Checking their ratio and the tyreotropic hormone will help determine the connection between the pituitary and thyroid function.

Ultrasound examination (scanning) of the thyroid gland is one of the methods of non-invasive examination, which allows you to determine the level of thyroid hyperplasia, boundaries, dimensions, the presence of nodes, density, ratio with other organs. Usually, when a radioactive examination with I131 is not carried out (the absence of a drug, the gland is blocked by iodine-containing preparations), the value of this method increases even more. Computed tomography examination method is considered the latest methods and clearly shows the boundaries of the thyroid gland and its composition. This method, especially in the species of the gland located behind the breast, clearly shows its relationship to the borders and other tissues. When thyroid cancer (cancer) is suspected or in any nodular Bull, a sample of glandular tissue (biopsy), gives us more information. It should be carried out before or during surgery, as it is necessary to rely on this information (biopsy results), to expand the size of the operation or the next stage of treatment sets the stage for setting the level.

Laryngoscopy is a method of examination that must be performed in all patients with bull disease, even if

the sound has not changed. In this, it gives the pathological process the possibility of determining to what extent the connection of the returning nerves to glandular hyperplasia is, the latent paralysis of the sound ligaments that occurs in connection.

Thyroid tumors. The following clinical-morphological speciation(classification) of thicksimonbez tumors has been adopted.

1.Safe tumors:

- epithelial-embryonic, keloid, papillary;
- noepithelial-fibroma, angioma, lymphoma, neurinoma, chemodectoma.

2.Malignant tumors:

- epithelial-papillary adenocarcinoma, follicular adenocarcinoma, Langhans tumor, solid rake, flat-cell and non-taxasized rake;
- noepithelial tumors-sarcoma, neurosarcoma, limforeticulosarcoma.

Thyroid cancer (cancer)-0.4-1% of all malignant tumors are inoperable. Normally, glandular activity develops from a normal or reduced nodular horn, with the diffuse toxic Horn rarely passing into the raccoon. In women, thyroid cancer is more than 3-4 times higher than in men. Factors that allow the development of thyroid cancer include injuries, chronic inflammatory processes, radiating the thyroid area on an X-ray, prolonged treatment with radioactive iodine or tyreostatic drugs. Safe thyroid tumors are rarely observed.

Clinical stages of thyroid cancer:

Stage I is a solitary tumor in the thyroid gland, The Shape of which has not changed, to the capsule it did not grow and its mobility was not limited.

The IIA stage is a solitary or multiple tumor of the thyroid gland that has changed its shape, but has not grown into its capsule and has not limited mobility. No metastases to Regional and other members.

Stage IIB-single or multiple tumors of the thyroid gland, not overgrown and not lost in mobility, but have metastases in the nearby lymph nodes on the affected side of the neck.

IIIbosqichi-the tumor is spread outwards from the thyroid capsule and is connected to the surrounding tissues or presses on adjacent organs. The tumor had limited mobility, giving metastases to nearby lymphatic nodes.

stage-grow into the structures and organs around the tumor, the thyroid gland is absolutely not pushed, metastases are seen in the lymphatic nodes. It gave metastases to the lymphatic nodes of the neck and chest, and metastases to other members. In the deep neck, the hiccups are regional lymphogenic metastasis to the pre - and paratracheal lymphatic nodes.It is observed to give hematogenous metastases to distant organs, in which most lungs and bones are damaged.

Clinic and diagnosis. Early clinical symptoms are rapid enlargement of the calf or normal thyroid gland, increased density, changes in contours. The gland becomes cartilaginous, less mobile, the cervical regional lymphatic nodes are palpated. The immobility and compaction of the tumor becomes a mechanical barrier to breathing and swallowing. Swallowing becomes more difficult, suffocation, and a change in sound occurs, which becomes involved in the paresis of sound buoys. In relatively late periods, signs associated with metastasis of the tumor are noted. Often patients complain of pain in the ear and ensa area.

For differential diagnosis of thyroid tumors, information on the Cytological and histological examination of the tumor puncture is of primary importance. They allow diagnosis and morphological type of tumor to be determined.

Treatment. The main method of treating thyroid cancer is surgery. In papillary and follicular types of cancer (stage I-II), extracapsular subtotal tyreoidectomy is performed, lymphatic nodes are inspected, and when metastases are detected, they are removed. In Stage III of the disease, joint treatment is carried out. A preoperative gamma therapy followed by a subtotal or total tyreoidectomy cuts the kletchatka on both sides along with the pay sheath. In the III-IV stages of cancer, irradiation is desirable after surgery unless irradiation has been performed prior to surgery. In taxasized types of cancer, metastases are unlikely to be assigned radioactive iodine for exposure to captured lymph nodes or organs. In the follicular and papillary types of thyroid cancer, the treatment results are somehow good. In the case of non-taxasized solid types of cancer, however, it is extremely serious, even despite relatively premature surgery.

Diseases of the paracalconeal glands. The glands behind the paracalconeal or thyroid gland (glandula

parathyroid glands) are glands of internal secretion. They are located at the back level of the thyroid gland, outside its capsule, in pairs, i.e. two on each side of most. Their large size and quantity vary somewhat. The product of the internal secretory activity of the glands parathyroidly, it acts as a basis in the exchange of calcium - phosphorus along with calcitonin.

The parathyroid glands are three members involved in the exchange of calcium-phosphorus: in a hormone agent that acts on the bones, kidneys and intestines, maintaining a constant amount of calcium in the blood. Parathyroid hormone activates osteoblasts to promote transfer to osteoclasts and promotes bone resorption, skeletal bone mineralization. As a result, a large amount of calcium gets into the blood, and hypercalcemia, hypercalcuria is explained by this. In hypercalcemia, under the influence of parathyroid hormone, the reabsorption process in the renal ducts stops and excess calcium from the body is excreted through the urine. Parathyroid hormone inhibits phosphorus reabsorption in proximal sections of renal ducts and enhances its extraction in distal sections. It also enhances calcium resorption in the intestine. Its action is in contrast to the action of vitamin D, which allows calcium ions to pass through the intestinal wall. Thus, parathyroid hormone deficiency can lead to hypocalcemia, hyperphosphatemia, and a decrease in calcium and phosphorus in the urine, which is more likely. Hormone hypersecretion causes severe disturbances in mineral metabolism, followed by damage to bones and kidneys.

Hyperparathyroidism. Primary hyperparathyroidism (Recklinghausen's disease or generalized fibrocystosis dystrophy) is defined as osteoporosis, cysts, bone shape disorders and pathological fractures, and the appearance of stones and calcinosis in the kidney. The disease usually begins after the age of 30, mostly women get sick. The morphological substrate of hyperparathyroidism is whether the gland undergoes solitary adenoma or hyperplasia.

Clinic and diagnostics. The clinical picture of the disease is diverse. More often, signs are observed by the kidneys, bones and gastrointestinal tract. Its clinical types are: kidney, bone-related, mixed, osteoporotic and acute hyperparathyroidism.

In the renal type, the symptoms are similar to those of urinary-thoracic disease. The patient is disturbed by renal colic, hematuria, polyuria. The addition of infection and degenerative changes in the renal parenchyma lead to pyelonephritis, urosepsis, azotemia and uremia.

For the type of bone of the disease, pain in the joint, bone, spine is characteristic, they are not pressed even when standing still. In the phalanges of the paw fingers, the abrasion of the bone-top curtain of the bone shell floor, the breakdown of the distal part of the III Phalanx (which is not observed in other diseases of the bones) are early diagnostic signs. Intense osteoporosis is observed, which passes through the complete or flattened thoracic and lumbar vertebrae. Hyperparathyroidism in the osteoporotic type occurs along with gastric, duodenal ulcers.

Diagnosis of hyperparathyroidism is made based on data from Anamnesis, objective examination, signs, X-ray examination and laboratory indications of hypocalcemia, hyperphosphatemia and hypercalcuria. Scintigraphy of the thyroid glands using Co57 allows you to determine the location of the gland and morphological changes in it.

Treatment

One treatment at a time consists of the removal of parathyroid adenomas. Hypoparathyroidism. A disease or condition that is associated with parathyroid hormone deficiency. The causes of hypoparathyroidism are inflammatory diseases of the parathyroid glands, blood clots at the time of injury, a congenital deficiency of the thyroid gland, its accidental removal or damage.

Clinic and diagnosis. Hypoparathyroidism passes with attacks of tetanus. The tetanus are clonic in nature, covering the muscles of most of the face and symmetrical muscle groups. Tetanus passes with pain in the abdomen, depending on the spasm of the abdominal wall muscles and smooth muscles in it. With laryngospasm, there will be a possibility of asphyxia. Characteristic of him are the symptoms of Khvostek and Trusso. Khvostek's symptom-when the facial nerve projection area is hit with a finger or percussion hammer in front of the ear soft, the muscles in the area of the nasal Parra and the oral angle contract. The Trusso symptom is a distinctive sign of Tonic stiffness, in the form of the "midwife" sign of the palm when the area of the cervical nerve vein tutami is pressed. Epilepsy should be contrasted with seizures.

Treatment. Seizures are stopped by sending calcium chloride solutions to the vein. To prevent their attacks, patients are constantly taking calcium preparations, vitamin D, parathyroidin. Among the methods of

surgical treatment, in the treatment of hypoparathyroidism, a method is known for suturing the subcutaneous clot of the abdomen "broth Bony" every 2 years. This method has not yet been widely used. Conclusion: Our conclusion is that symptoms of diseases of the endocrine system, the endocrine system plays a very important role in regulating almost all vital processes in the human body. The glands of internal secretion produce hormones, the violation of which leads to serious diseases. Many are indifferent to changes in the body during the initial period or do not see a doctor, attributing to fatigue, stress and other conditions. Before the exacerbation of the disease, it is necessary to consult with the endocrinologist's doctor and, as early as the initial period, to treat and prevent its negative consequences.

Literature:

1. A.Axmedov G.Ziyomudinova. *Anatomiya, Fiziologiya va Patologiya*.
2. R.E.Xudoyberdiyev, N.K.Axmedov, R.A.Alaviy, S.A.Asamov.
3. OdamAnatomiyasi.
4. A.Qodirov. *Odam anatomiyasi*.
5. www.ziyonet.uz
6. <https://lex.uz/uz/docs/-5838968>
7. Абдуллаев Д.С. Опыт хирургического лечения язвенной болезни желудка и двенадцатиперстной кишки. *Хирургия* № 8. 1999. с. 19-22.
8. Агзамходжаев С.М., Фрейтаг В.И. Печень и водно-солевой обмен. Ташкент, Изд-во им. Ибн Сины, 1991. 72 с.
9. Асраров А.А. Хирургические и эндоваскулярные методы профилактики и лечения гнойно-септических осложнений и полиорганной недостаточности у больных разлитым гнойным перитонитом. Дисс. докт. мед. наук. Ташкент, 1994.
10. Бабалич А. К. Хирургическое лечение больных язвенной болезнью двенадцатиперстной кишки. *Хирургия* № 7. 1999. с. 19-22.
11. Байбеков М.М., Хорошаев В.А., Калиш Ю.И. и др. Функциональная морфология брюшины в норме, при перитоните, спайкообразовании и лазерных воздействиях., Ташкент, 1996.
12. Балдина Е.А. Заболевания щитовидной железы. Москва, 2001.
13. Бежан Л., Зитти Е. Гр. Резекция легких. *Анатомические основы их хирургическая методика*. Бухарест, 1981.
14. Бейтс Б. и др. *Энциклопедия клинического обследования больного*. Перевод с английского. Гэотар. Москва, 1997.
15. Белов Ю.В. *Руководство по сосудистой хирургии с атласом оперативной хирургии*. Москва, 1999.
16. Береснев А.В., Сипливый В.А, Бублик В.В., Бышенко В.В. Наложение дистального спленоренального анастомоза у больных с циррозом печени. *Клиническая хирургия*.-1993.- N 11. – С.23-25.