



TASHKENT MEDICAL ACADEMY



Journal of Educational and Scientific Medicine

Issue 1 (2) | 2023



OAK.uz
Google Scholar

Supreme Attestation Commission of the Cabinet
Ministry of the Republic of Uzbekistan

ISSN: 2181-3175

Comparative Characteristics of Surgical Methods of Treatment of Diffuse Toxic Goiter

U.P. Khamroev¹

ABSTRACT

Background. Surgical treatment, being the oldest way to treat diffuse toxic goiter, still plays an important role in the treatment of patients with this disease. Even though most foreign clinicians prefer radioiodine therapy, some researchers recommend expanding the indications for surgical treatment of diffuse toxic goiter. However, at present, there is no single point of view regarding the scope of surgery for diffuse toxic goiter.

Material. Comprehensive examination and treatment of 296 patients with diffuse toxic goiter who were treated and examined in the department of surgery of the Bukhara Regional Multidisciplinary Medical Center.

Conclusion. And the analysis of the results of traditional approaches to surgical methods of treating diffuse toxic goiter showed that in 37.5% of cases, good results were achieved. In 46.4% of patients, the treatment results were found to be satisfactory, and in 16% - not satisfactory. One of the terrible complications of operations on the thyroid gland, as shown by the results of our studies, is intra- and postoperative bleeding. This type of complication was noted by us in 26 (14.0%) patients.

Keywords: Diffuse toxic goiter, thyrotoxicosis, surgical methods of treatment, postoperative complications

INTRODUCTION

Currently, diseases visible gland (goiter, especially diffuse toxic form) belongs to the category of the most common endocrine diseases in the world. In the Republic of Uzbekistan, there is a steady increase in the number of patients with diffuse toxic goiter, accounting for 23.3-70% of the total number of diseases of the endocrine system [9, 11, 15].

The high medical and social significance of endemic goiter is also of significant importance for the Republic of Uzbekistan since iodine deficiency and its consequences are a regional problem [3-5].

Due to the growth of endocrine pathology throughout the world, at present, quite serious attention is paid to the pathomorphology of the thyroid gland [2, 6, 7]. As is known, in many pathological processes, organs with high oxygen consumption suffer primarily, which also include the thyroid gland. It is proved that the progression of diffuse toxic goiter causes the formation of persistent thyroid pathology [8, 12, 13].

However, due to the large volume of such surgical methods of treatment of diffuse toxic goiter, their results were not evaluated in our clinic. The results of such studies, in our opinion, will improve the results of treatment,

¹ MD, Chief surgeon of the Bukhara region, assistant of the department of faculty and hospital surgery with a course of urology, Bukhara State Medical Institute, Bukhara, Uzbekistan. E-mail: hamroyevoktam849@gmail.com

as the prospects for measures taken in the prognosis and prevention of postoperative complications will be determined.

MATERIAL AND METHODS

Patients with diffuse toxic goiter, as a rule, go through a long period of preoperative conservative therapy with thyrostatic drugs, to eliminate signs of thyrotoxicosis. In accordance with this, patients who came to us for surgical treatment had either different periods of duration of such therapy or did not receive it at all. Of the 293 patients in 89.1% of cases, patients with diffuse toxic shock received thyrostatic therapy (261 patients), being under the supervision of endocrinologists. Only 32 patients (10.9%) began to receive appropriate therapy after contacting us.

And in the first and in the second case, the criteria for the effectiveness of thyrostatic therapy, in addition to eliminating the clinical picture of thyrotoxicosis, is the normalization of such laboratory parameters as free T₃, free T₄, thyroid-stimulating hormone.

When contacting the surgical clinic, out of 261 (89.1%) patients, in 79 (30.3%) patients against the background of thyrostatic therapy, compensation for thyrotoxicosis (stopping the clinical picture of the disease and normalizing laboratory parameters) was achieved. In 182 (69.7%) patients, subcompensation of diffuse toxic goiter was noted (relief of the clinical picture of the disease with the preservation of hormonal signs of thyrotoxicosis).

Among the patients, 234 (79.9%) were female patients and 59 (20.1%) male patients. The average age of patients was 42.5±23.4 years. The duration of the disease ranged from 4 months to 35 years.

One of the main methods for assessing thyrotoxicosis was to conduct a study of the specific hormonal spectrum of the blood.

The level of free T₃ in patients averaged 3.53±0.19 pmol/l, and free T₄ - 10.35±2.14 pmol/L. At the same time, the level of thyroid-stimulating hormone averaged 2.93±0.21 pmol/l.

Hormonal signs of thyrotoxicosis were detected in 202 (68.8%) patients. Of these, subclinical thyrotoxicosis, that is, subject to a reduced level of thyroid-stimulating hormone in combination with normal indicators of free T₃ and free T₄ was detected in 28 (9.6%) patients. At the same time, a decrease in the level of thyroid-stimulating hormone in combination with high levels of free T₃ and free T₄ was found in 173 (59.2%) patients. Similar cases were distinguished by us as patients with manifesting thyrotoxicosis.

Against the background of thyrostatic therapy, the euthyroid state was achieved in 227 (77.5%) patients. In 30 (10.2%) patients, iatrogenic hypothyroidism was detected. In 15 (5.1%) of them, subclinical was determined, and in 21 (7.2%) manifest hypothyroidisms.

The average volume of the thyroid gland in patients according to ultrasound data was 50.11±21.3 mm². In 145 (49.5%) patients, the structure of the thyroid tissue was homogeneous, in 148 (50.5%) patients - of a heterogeneous structure.

Thyroid tissue of medium degree of echogenicity was detected in 24 (8.1%) patients, hypoechoic - in 180 (61.3%) patients, hyperechoic - in 21 (7.2%) patients, with hyperechoic areas against the background of hypoechoic tissue - in 68 (23.4%) patients. Unchanged blood flow in the thyroid tissue was noted in 18 (6.3%) patients and increased vascularization in 275 (93.7%) patients.

In 98 (33.3%) cases, during ultrasound examination, along with diffuse enlargement of the thyroid gland, we also found nodular formations. Nodular formations of the right lobe were detected in 49 (16.8%) patients. At the same time, 38 (12.8%) of them had an ode nodule formation, and in 16.8% of them - had one nodular formation and 12 (4.0%) from 2 to 3 nodal formations. In 13.6% of cases (40 patients), the size of the nodule was less than 2.0 cm, and in 3.2% of cases (9 patients) more than 2.0 cm.

Nodules in the left lobe of the thyroid gland were found in 29 (9.9%) patients, of which 21 (7.2%) patients had one nodular formation, and 8 (2.7%) patients had from 2 to 3 nodular formations. In 15.2% of cases, the size of nodules was less than 2.0 cm, and in 2.4% of cases - more than 2.0 cm.

In the isthmus of the thyroid gland, nodular formations were detected in 13 (4.4%) patients. Of these, 10 (3.4%) patients had one nodular formation each, and 3 (1.0%) from 2 to 3 nodular formations. All nodular formations were in the isthmus and were less than 2.0 cm.

All patients with diffuse toxic goiter, with the presence of nodular formations, were performed fine-needle aspiration biopsy. At the same time, follicular epithelial cells were obtained in 26 (8.8%) cases, follicular epithelium, and leukocytes - in 12 (4.0%) cases, follicular epithelium, and lymphocytes - in 12 (4.0%) cases, follicular epithelium and lymphocytes - in 19 (6.4%) cases, follicular epithelial cells and macrophages - in 5 (1.6%) cases, follicular epithelium with signs of hyperplasia - in 9 (3.2%) cases, follicular epithelium with polymorphism of nuclei - in 5 (1.6%) cases. In 7 (2.4%) cases, the cytogram corresponded to follicular adenoma, and in 5 (1.6%) cases. In 7 (2.4%) cases, the cytogram corre-

sponded to follicular adenoma, and in 5 (1.6%) cases were obtained colloid.

When conducting radiography of the cervicosternal space with contrast of the esophagus, signs of tracheal abnormalities were detected in 51 (17.5%) patients; esophageal compression - in 38 (12.8%) patients, compression of the tracheal esophagus and tracheal deviation - in 7 (2.4%) patients (Figure-1).



Figure-1. Patient with diffuse toxic goiter

With indirect laryngoscopy, 7 (2.4%) patients experienced incomplete closure of the vocal folds during phonation. In one case, this was due to paresis of the right recurrent laryngeal nerve, in the second - paresis of the left recurrent laryngeal nerve, in the third - both vocal folds did not close completely during phonation. In one patient, during the examination, a neoplasm of the laryngeal surface of the epiglottis was found on a wide base.

All patients underwent surgical interventions on the thyroid gland. The amount of surgery depended on the type and volume of thyroid damage. In most cases (47.1% - 138 patients), a total thyroidectomy was performed. The remaining patients underwent organ-preserving operations, such as: hemistrumectomy in 76 (25.9%) patients, thyroid resection according to Nikolaev - in 53 (18.1%) patients, extended thyroid resection - in 21 (7.2%) patients, enucleation of nodular goiter - in 5 (1.7%) patients.

The volume of left thyroid tissue after resection according to Nikolaev ranged from 3 to 6 ml (an average of $4.2 \pm 0.75 \text{ mm}^3$) The average volume of the removed thyroid gland after total thyroidectomy was $51.8 \pm 26.7 \text{ mm}^3$.

Although according to the results of morphological studies of the removed part of the thyroid gland in most cases (243 patients - 82.9%), a diagnosis of diffuse toxic goiter was established, nevertheless, in 17.1% of cases,

other forms of thyroid damage were also detected. In 21 (7.2%) cases, microfollicular goiter with bas edification was detected, in 11 (3.7%) cases diffuse toxic goiter with focal lymphoid infiltration of the stroma, in 5 (1.7%) cases macrofollicular diffuse toxic goiter. In 13 (4.4%) patients, histological results of the removed part of the thyroid gland were, unfortunately, with elements of malignant formation. Thus, in 4 patients (1.4% of cases) follicular adenoma of the right lobe of the thyroid gland was diagnosed, and 3 cases (a total of 9 patients) with diffunsny m toxic goiter and papillaryoy microcarcinoma, toxic goiter with areas of adenocarcinoma, as well as β -cell adenoma of the right lobe against the background of diffuse toxic goitera.

Evaluation of the results of the operation was carried out by indicators: the development of relapse of the disease, and the presence of persistent postoperative complications (manifestations of hypoparathyroidism, various variants of dysphonia). Based on the data obtained, the results could be assessed as good, satisfactory or unsatisfactory.

RESULTS

In total, according to the results of the treatment of patients in 37.5% of cases (110 patients), good results were achieved. In 136 (46.4%) patients, the results of treatment were found to be satisfactory. Unsatisfactory results, which we decided to dwell on in more detail further, were found in 47 (16.0% of patients).

Considering the duration of the preoperative period, and in particular, the timing of conservative therapy, we randomized patients by the duration of taking thyrostatic drugs.

The first subgroup of patients included 103 (35.2%) patients who received thyrostatic therapy lasting no more than 1 year before the surgical method of treatment. According to this scenario, the II subgroup included 129 (44.0%) patients who received thyrostatic therapy for more than 1 year to 3 years. In the III subgroup, 61 (20.8%) patients who received conservative therapy lasting more than 3 years were included.

Among patients of the I subgroup, good (47.6%) and satisfactory (46.6%) treatment results were noted to a greater extent. In 6 (5.8%) patients, the results of surgical treatment of diffuse toxic goiter were unsatisfactory.

Among patients of the II subgroup, who took thyrostatic drugs for 1 year to 3 years, in most cases, 61 (47.3%) patients had satisfactory results of surgical intervention. In 49 (38.0%) patients, the results of the surgical operation were excellent and in 19 (14.7%) patients - not satisfactory.

In the third subgroup of patients, as in the previous one, the majority of patients (44.3%) completed treatment after surgery with satisfactory results. However, in contrast to the I and II subgroups, the results of unsatisfactory results were more than good by 16.4%.

Thus, the results of surgical methods of treating diffuse toxic goiter can sometimes be very disappointing. Intraoperative bleeding (Figure-2), especially from the remaining thyroid tissue, which requires repeated coagulations, does not always allow to achieve the desired effect. Moreover, complications of this kind, as clinical cases have shown, are often the causes of other, no less dangerous types of complications that can affect both the immediate results of surgical treatment and distant ones.



Figure-2. Postoperative bleeding

In the basis of the structure of the formation of the results of treatment of patients with diffuse toxic goiter, we considered a number of complications of the early and late postoperative period, their duration, the need for the use of additional methods of treatment and the connection of control observation of other specialists.

One of the terrible complications of operations on the thyroid gland is intra- and postoperative bleeding. This type of complication was noted by us in 26 (14.0%) patients. In 3 (1.02%) cases, the source of bleeding was saphenous veins, in 18 (6.1%) cases - the left part of the tissue and thyroid gland, in 5 (1.7%) cases bleeding from the branches of the upper thyroid artery. Bleeding occurred in 21 (7.2 %) of patients after resection of the thyroid gland according to Nikolaev and in 5 (1.7%) patients after total thyroidectomy.

Bleeding from the remaining thyroid tissue in all cases was among patients of subgroup III. Bleeding from the saphenous vein in 1 case was in a patient from subgroup I and in 2 cases among patients of subgroup II. Bleeding from branches of the upper thyroid artery in 1

case was among patients of subgroup III, in 3 patients of subgroup II and in 1 patient from subgroup I.

In 28 (9.6%) patients on the 1st day after the operation, hoarseness of the voice or aphonia, fatigue when talking, moderate difficulty breathing, choking after taking liquid food, and sometimes paroxysmal dry cough were noted. When an otolaryngologist performed indirect laryngoscopy, 15 (5.1%) patients showed paresis of the right vocal fold, 7 (2.4 %) paresis of the left vocal fold, bilateral paresis in 4 (1.4%) patients, paresis of the right vocal fold and paralysis of the left vocal fold in 2 (0.7%) patients.

The thearrushion of the mobility of the vocal folds in two (0.68%) patients was combined with the phenomena of hypoparathyroidism. At the same time, one of them was diagnosed with paresis of the left vocal fold, and the other – with bilateral paralysis. However, a slight decrease in the level of ionized calcium, without a clinical picture of hypoparathyroidism, was noted after surgery in all patients with paresis of the vocal folds.

In 42 (14.3%) patients the 3-5 days after the operation, hypoparathyroidism developed. At the same time, against the background of a decrease in blood calcium levels, patients had paresthesia's, as well as muscle cramps of the limbs and face. Postoperative hypoparathyroidism was detected in 28 (9.6%) patients after thyroid resection according to Nikolaev and in 14 (4.8%) patients after total thyroidectomy.

Based on the clinical and hormonal examination conducted in the period from 1 to 5 years in patients, it was found that 29 (9.9%) patients developed a relapse of thyrotoxicosis, 225 (76.8%) patients achieved hypothyroidism and only 39 (13.3%) patients retained a euthyroid state. At the same time, thyrotoxicosis in two patients was detected 2 years after surgery. On average, postoperative hypothyroidism developed 4.07 ± 2.67 months after surgery.

In general, patients registered 186 records for the statement of postoperative complications in the early and late periods.

In a comparative analysis of these pathological conditions, it should be noted that among patients of the first subgroup, the prevailing cases were hypoparathyroidism and hypocalcemia (33.3% of cases each), which were transient in nature and did not require the use of special drug therapy. 2 cases are distributed among such complications as bleeding, dysphonia, wound suppuration, and relapse of the disease.

In patients of subgroup II, disorders associated with hypocalcemia and hypoparathyroidism were also prevalent (in 21.6% of cases). In half of the cases, they were in

nature that did not require special medical treatment. The same number of cases can be attributed to the recurrence of the disease, which indicated an unsatisfactory result of treatment. Dysphonia was diagnosed in 13.7% of patients, suppuration of the wound - in 11.8% and bleeding - in 9.8% of patients.

In the III subgroup of patients, the nature of postoperative complications was more stable and, in most cases, required the use of drug treatment.

Thus, postoperative bleeding was noted in 19 (17.1%) patients. At the same time, 23 patients (20.7%) were diagnosed with the development of hypoparathyroidism with hypocalcemia, requiring serious drug treatment. 19 (17.1%) patients were diagnosed with dysphonic disorders. Relapse of the disease was diagnosed in 16 patients (14.4%), and suppuration of the postoperative wound - in 11 patients (9.9%).

In addition to this information, we analyzed the clinical material on the registration of cases of intraoperative bleeding in the protocol of the operation. As a result of such an analysis, it was revealed that in 85.9% of cases among patients of the III subgroup with the above complications during the operation, cases of intraoperative bleeding were registered.

We deliberately focus on this fact, since we consider it to a certain extent the cause of the development of the trigger mechanism of the entire chain of pathological processes occurring among patients after surgery on the thyroid gland.

Naturally, in conditions of complication of visual control of the technique of the operation, which takes place with intraoperative bleeding, often requires the use of electrocoagulation of the parenchyma, which inevitably leads to a number of other types of complications.

DISCUSSION

Analysis of own clinical material and its comparison with the data of literary sources, it should be noted that most of the information in the studies conducted, the emphasis associated with bleeding, is reduced to assessing it in the postoperative period. At the same time, most researchers, in our opinion, do not pay enough attention to the emerging intraoperative bleeding, which has one of the key points in the development of the subsequent chain of pathological processes associated with postoperative complications and accordingly determine the outcome of treatment. The main reason for this approach is related to the issues of the technique of surgical intervention. However, the statistics of our stud-

ies showed that in patients with other types of complications in the technique of performing the surgical intervention, intraoperative bleeding was noted. [29, 30]

For example, it is known that the main cause of impaired mobility of the vocal folds is damage to them during the operation of the recurrent laryngeal nerves. [31]

The following factors may contribute to this:

1. violation of topographic anatomical relationships with a significant increase or deformation of the thyroid gland;
2. with repeated surgery in case of recurrent diffuse toxic goiter;
3. with the anatomical proximity of the recurrent laryngeal nerve with the ligated lower thyroid artery;
4. insufficient hemostasis or excessive use of electrocoagulation.

However, a violation of the mobility of the vocal folds can also occur when an experienced surgeon traces the course of the recurrent laryngeal nerve up to its entry into the larynx. [32]

In this case, the cause of postoperative impairment of the mobility of the vocal folds may be compression of the nerves due to edema, hematoma, or involvement of the recurrent laryngeal nerve in the cicatricial process. [33]

The impact of certain factors that affect the insufficiency of spontaneous hemostasis creates several difficult moments and forms a chain of the pathogenesis of the development of postoperative complications in patients with diffuse toxic goiter. [34,35]

Intraoperative bleeding, considering the small size of the wound surface, creates difficult visual conditions for the operation. This, in turn, can be the cause of an inferior resection of the thyroid gland with the abandonment of the diseased array of tissue, which subsequently contributes to the development of a relapse of the disease. [36]

Along with this, the complex visual conditions during the operation also create difficulties in identifying the neurovascular formations of the thyroid gland and the parathyroid glands themselves, too. [37,38] This block leads to increased trauma and a high risk of damage to the neurovascular formations of the thyroid gland. This is one of the main causes of dysphonic disorders. [39, 40]

On the other hand, the difficulty in identifying the topography of the parathyroid glands during thyroid resection may be the cause of the development of hypoparathyroidism and hypocalcemia in the postoperative period. [41]

The complexity in hemostasis during surgery on the thyroid gland leads to excessive use of electrocoagulation of the organ. This is again a common cause of increased traumatism and the possibility of damage to the neurovascular formations of the thyroid gland with the development of dysphonic disorders in the postoperative period. [42]

A similar mechanism for the development of postoperative complications is also possible with repeated intervention on the thyroid gland to stop bleeding. This round of pathogenesis refers to postoperative bleeding or the formation of a hematoma. [43, 44, 45]

In the case of the latter, the formed hematoma can squeeze the trachea, subject to its previous tracheomalacia and, along with this, the hematoma can provoke autonomic disorders due to compression of the neurovascular bundles in the neck. [46, 47]

The compression nature of the damage is accompanied by respiratory disorders, a stable cough, which cannot be stopped medically. Accordingly, in the first and in the second case, repeated surgical intervention is required, which again, as described above, increases the traumatic factor. The likelihood of suppuration of the postoperative wound also increases, which also reduces the likelihood of achieving positive results of surgical treatment of diffuse toxic goiter. [48]

Thus, the circle of pathogenetic chain of development of postoperative complications between intraoperative and postoperative complications after resection of the thyroid gland is closed. And this proves about the peculiar changes in the spontaneous hemostasis system in patients with diffuse toxic goiter. In accordance with the goals and objectives set, it seems to us that the search for an adequate solution is possible subject to an assessment of the main influencing factors on these pathogenetic disorders.

CONCLUSION

A retrospective analysis of the results of traditional approaches to surgical methods of treating diffuse toxic goiter showed that in 37.5% of cases good results were achieved. In 46.4% of patients, the results of treatment were found to be satisfactory, and in 16% - not satisfactory. One of the terrible complications of operations on the thyroid gland, as shown by the results of our research, are intra- and postoperative bleeding. This type of complication was noted by us in 26 (14.0%) patients.

Ethics approval and consent to participate - All patients gave written informed consent to participate in the study.

Consent for publication - The study is valid, and recognition by the organization is not required. The author agrees to open publication

Availability of data and material - Available

Competing interests - No

Financing - No

REFERENCES

1. Activity of monooxygenase and nitrogenous systems in liver microsomes under the influence of inducers and inhibitors of medicinal metabolism on the organism in conditions of liver pathology / AO Okhunov, S Sayfullaeva // *International Journal of Psychosocial Rehabilitation* 24, 416-421
2. Activity of the NO-system in lung after pneumectomy of various volumes / Babaiarova, S.U., Okhunov, A.O., Komarin, A.S. // *Patologicheskaya fiziologiya i eksperimental'naya terapiya*, 2012, (1), pp. 29-32
3. Apyan, A. S. Radioiodine therapy for diffuse toxic goiter: Dosimetric aspects / A. S. Apyan, R. A. Roziev // *Medical Radiology and Radiation Safety*. - 2001. - Vol. 46, No. 3. - P. 53-57.
4. Atakov, S. S., et al. "Difficult aspects of treatments patients with acute lung abscesses who survived covid-19." *Journal of education and scientific medicine* 1 (2022): 57-60.
5. Atakov, S., Bobokulova, S., Kasimov, U., Bobabekov, A., & Okhunov, A. (2022). Difficult aspects of treatments patients with acute lung abscesses who survived COVID -19. *Journal of education and scientific medicine*, (1), 57-60.
6. Botasheva, V. S. morphological criteria for diagnosing diffuse toxic goiter / V. S. Botasheva, A. B. Elkanova, A. A. Lavrinenko // *Medico-pharmaceutical journal Pulse*. - 2019. - Vol. 21, No. 10. - S. 6-11.
7. Boyarova, K. M. Diffuznyi toksicheskiy zob / K. M. Boyarova // *Stolitsa nauki*. - 2019. - № 12(17). - S. 96-101.
8. Cancer of the Thyroid Gland Against the Background of the Diffuse Toxic Goiter / N. P. Volodchenko, T. I. Korotchik, V. V. Ischenko [et al.] // *The 2nd China, Japan and Korea International Conference for TCM and the 7th Sino-Russia Biomedical Forum, Harbin, China, 2010. - Harbin, China: Heilongjiang University of Chinese Medicine, 2010. - P. 110.*
9. Clinico-diagnostic aspects of diffuse toxic goiter in men / N. P. Volodchenko, E. A. Boiko, E. A. Shevchenko [et al.] // *The 8th Russia-China Pharmaceutical Forum, Blagoveschensk, 14-17 sentyabrya*

2011 года. – Влагoveschensk: Поли-М, 2011. – P. 123-124.

10.Davlatov, I. A. Morphometric characteristics of the parameters of the components of the thyroid gland with diffuse toxic goiter / I. A. Davlatov, M. K. Gulov, S. Kurbonov // . – 2019. – Vol. 9, No. 1(29). – S. 12-17.

11.Dora SV, Rybakova MG, Alekseev DA, Krylo- va YS, Volkova AR, Belyakova LA. Molekuliarno-biologicheskie markery proliferatsii, apoptoza i angiogeneza pri diffuznom toksicheskom zobe [Molecular biological markers for proliferation, apoptosis, and angiogenesis in diffuse toxic goiter]. *Arkh Patol.* 2017;79(6):3-7.

12.Effect of mercasolyl on the immunological indices of patients with diffuse toxic goiter / A. V. Yepishin, L. D. Solomko, N. A. Yepishina, P. Kuzmich Yu // *Врачебное дело.* – 1989. – No. 2. – P. 11-14.

13.Evaluation of the effectiveness of non-drug methods in the treatment of patients with diffuse toxic goiter / A. V. Vilkov, V. I. Davydkin, A. G. Golubev [et al.] // *Modern science: actual problems of theory and practice. Series: Natural and Technical Sciences.* – 2019. – № 6. – S. 140-144.

14.Functional state of the thyroid gland of newborns from mothers with diffuse toxic goiter / N. V. Vorokhobina, Y. S. Lovkova, A. V. Kuznetsova [i dr.] // *Medical Herald of the South of Russia.* – 2019. – Vol. 10, No. 3. – S. 24-31.

15.Isayeva, A. Q. Influence of plasmapheresis on hormonal and immunological parameters in patients with diffuse toxic goiter / A. Q. Isayeva // *Azerbaijan Medical Journal.* – 2002. – No. 2. – P. 85-88.

16.Ismailov, S. I. Problems of diagnostics and treatment of diffuse - toxic goiter (Graves' disease) / S. I. Ismailov, K. Kh. Khayitboeva // *Vestnik of Saint Petersburg University. Medicine.* – 2019. – Vol. 14, No. 2. – P. 98-104.

17.Khamdamov, S., & Okhunov, A. (2022). Immediate results of endovascular and little invasive methods of treatment of lung purulent diseases with diabetes mellitus. *Journal of education and scientific medicine,* (2), 63-65.

18.Knobel M. Etiopathology, clinical features, and treatment of diffuse and multinodular nontoxic goiters. *J Endocrinol Invest.* 2016 Apr;39(4):357-73.

19.Kurbonov, S. Pathomorphological characteristics of the vascular system of the thyroid gland with diffuse toxic goiter / S. Kurbonov, I. A. Davlatov // . – 2018. – № 2. – S. 29-33.

20.Lavruk KZ, Dudiy PF, Skrypnyk NV, Mishchuk VH, Vytvytskiy ZY. Clinical-laboratory and ultrasound parallels of changes in the liver and thyroid gland in diffuse toxic goiter. *J Med Life.* 2022 Jan;15 (1):78-88.

21.Lebedeva, D. V. Modern aspects of surgical treatment of diffuse toxic goiter / D. V. Lebedeva, E. A. Ilyicheva, E. G. Grigoriev // *Sibirskii medicinskii zhurnal (Irkutsk).* – 2019. – Vol. 158, No. 3. – S. 28-35.

22.Mahmudov, T. G. Frequency and clinical course of periodontium diseases at patients with diffuse toxic goiter / T. G. Mahmudov // *Azerbaijan Medical Journal.* – 2008. – No. 4. – P. 98-100.

23.Modern principals of antibacterial therapy of suppurative-septic diseases | *Sovremennye printsipy antibakterial'noi terapii gnoino-septicheskikh zabolovaniy / Okhunov, A.O., Babadzhanov, B.D., Kasymov, U.K., Rakhmatov, A.N., Mukhitdinov, U.M. // Likars'ka sprava / Ministerstvo okhorony zdorov'ia Ukraïny,* 2003, (7), pp. 70–73

24.Morphological characteristics of intestinal vessels of animals with an experimental model of diabetes mellitus type 2 complicated by microangiopathy / Okhunov, A., Israilov, R., Razzakov, S., Azizova, P., Mominov, A.// *Indian Journal of Forensic Medicine and Toxicology,* 2020, 14(4), pp. 7348–7353

25.Morphological characteristics of results of treatment of diabetic angiopathy / AO Okhunov // *International journal of diabetes and metabolic disorders* 4 (4), 1-3

26.Musiienko V, Sverstiuk A, Lepyavko A, Mazur L, Danchak S, Lisnianska N. Prediction factors for the risk of diffuse non-toxic goiter development in type 2 diabetic patients. *Pol Merkur Lekarski.* 2022 Apr 19;50(296):94-98.

27.Neimark, M. I. Central hemodynamics in early postoperative period in patients with diffuse toxic goiter (Russian) / M. I. Neimark // *Medical radiology.* – 1976. – Vol. 21, No. 6. – P. 11-16.

28.New findings in treatment of endocrine ophtalmopathy in patients with diffuse toxic goiter / L. B. Nugmanova, R. B. Abdasova, D. S. Usmanova [et al.] // *International Journal on Immunorehabilitation.* – 2006. – Vol. 8, No. 1. – P. 43.-43.

29.Okhunov, A. O., B. D. Babadzhanov, and U. I. Pulatov. "The reasons for the generalization of infection in patients with purulent-inflammatory diseases of soft tissues against the background of diabetes melli-

tus." Bulletin of the Tashkent Medical Academy 4 (2016): 89-93.

30. Patent No. 2203020 C2 Russian Federation, IPC A61H 39/08, A61H 7/00, A61H 39/06. Method of complex treatment of diffuse toxic goiter : No 2000123442/14 : declared. 11.09.2000 : publ. 27.04.2003 / N. T. Tkachenko.

31. Patent No. 2557946 C1 Russian Federation, IPC G01N 33/48, A61B 17/00. method of preoperative determination of the volume of surgery in patients with diffuse toxic goiter : No 2014108989/15 : declared. 07.03.2014 : publ. 27.07.2015 / A. N. Vachev, D. R. Sakhipov, E. V. Frolova, N. V. Morkovskikh.

32. Pathophysiological transformations in the endothelial system under different types of nephropathies / AO Okhunov // XXXIX international scientific and practical conference european research: innovation in science, education and technolog – 2018-#4-P 3.

33. Pedachenko, E. G. Specific features of craniocerebral trauma in diffuse toxic goiter / E. G. Pedachenko // Burdenko's Journal of Neurosurgery. – 1992. – Vol. 56, No. 1. – P. 10-11.

34. Prediction factors for the risk of diffuse non-toxic goiter development in type 2 diabetic patients / V. Musiienko, A. Sverstiuk, A. Lepyavko [et al.] // . – 2022. – Vol. 50, No. 296. – P. 94-98.

35. Prediction factors for the risk of diffuse non-toxic goitre development in type 2 diabetic patients. Musiienko V, Sverstiuk A, Lepyavko A, Mazur L, Danchak S, Lisnianska N. Pol Merkur Lekarski. 2022 Apr 19;50(296):94-98.

36. Prognostic model of the probability of remission of the disease in patients with diffuse toxic goiter / A. R. Volkova, S. V. Dora, G. G. Allamova [et al.] // Doctor.Ru. – 2020. – Vol. 19, No. 2. – S. 40-44.

37. Quality of life of patients before and after surgical treatment of diffuse toxic goiter / D. Sh. Abdurakhmanov, K. E. Rakhmanov, S. S. Davlatov, Z. E. Hidirov // Herald of Science and Education. – 2021. – No. 3-2(106). – P. 80-87.

38. Radjabov, A. B. Vascular microcirculatory manifestation of the thyroid gland in diffuse toxic goiter / A. B. Radjabov, N. R. Temurova, K. E. Ashurov // Molodoi scientile. – 2021. – № 18(360). – S. 77-79.

39. Ramazanov, A. R. Thyroidectomy with diffuse-nodular toxic goiter - description of the case / A. R. Ramazanov, S. N. Styazhkina // Forum of young scientists. – 2018. – № 11-2(27). – S. 481-485.

40. Results the use of various surgical methods for the treatment of patients with diffuse toxic goiter / T. A. Toleutaev, N. B. Omarov, M. Zh. Aimagambetov [et al.] // Science & Healthcare. – 2021. – Vol. 23, No. 2. – P. 103-110. – DOI 10.34689/SH.2021.23.2.010.

41. Rossato M, Burei M, Vettor R. Neck thermography in the differentiation between diffuse toxic goiter during methimazole treatment and normal thyroid. Endocrine. 2015 Apr;48(3):1016-7.

42. Shor, R. R. The effect of thyrostatic therapy on immune-hormonal relationships in children with diffuse toxic goiter / R. R. Shor, M. A. Zhukovsky, K. A. Lebedev // . – 1987. – Vol. 32, No. 4. – P. 7-12.

43. Some pathogenic aspects of changes in nonrespiratory function of the lungs in sepsis / Okhunov, A.O., Kasymov, A.K. // Likars'ka sprava / Ministerstvo okhorony zdorov'ia Ukraïny, 2006, (7), pp. 45– 47

44. Surgical aspects of non-respiratory activity of the lungs during acute pyonecrotizing diseases | Khirurgicheskie aspekty nerespiratornoï deiatel'nosti legkikh priikh ostrыkh gnoïno-destruktivnykh zabolovaniïakh / Karimov, K.I., Babadzhanov, B.D., Okhunov, A.O., Rakhmatov, A.N., Kutlimuratov, K. // Likars'ka sprava / Ministerstvo okhorony zdorov'ia Ukraïny, 2004, (1), pp. 38–40

45. The choice of method of surgical correction of complicated forms of diabetes type 2 / AO Okhunov // International journal of diabetes and metabolic disorders 4 (4), 1-3

46. Treatment of acute lung abscesses considering their nonrespiratory function in patients with diabetes / Okhunov, A.O., Israilov, R.I., Khamdamov, S.A., Azizova, P.X., Anvarov, K.D. // Indian Journal of Forensic Medicine and Toxicology, 2020, 14(4), pp. 7465–7469

47. Vachev AN, Frolova EV, Sakhipov DR, Morkovskikh NV. Vybor ob'ema operatsii u bol'nykh diffuznym toksicheskim zobom (s kommentariem) [The choice of surgery in patients with diffuse toxic goiter]. Khirurgiia (Mosk). 2016;(8):13-17.

48. Vetshev PS, Mamaeva SK. [Prognostic factors in surgical treatment of diffuse toxic goiter]. Khirurgiia (Mosk). 2006;(2):63-8.

DIFFUZ TOKSIK GO'DAKLARNI DAVOLASHNING JARROHLIK USULLARINING QIYOSIY XUSUSIYATLARI

Xamroev U.P.

Buxoro Davlat Tibbiyot Instituti

ABSTRAKT

Dolzarblik. Jarrohlik yuli bilan diffuz toksik bo'qoqni davolash eng qadimgi yo'li bo'lib, hali ham bu kasallik bilan bemorlarni davolashda muhim rol o'ynaydi. Ko'pchilik chet ellik shifokorlar radioiyotin terapiya afzal bo'lishiga qaramay, ba'zi tadqiqotchilar diffuz toksik bo'qoqni jarrohlik davolash uchun ko'rsatkichlarni kengaytirish tavsiya. Biroq, ayni paytda diffuz toksik bo'qoqni uchun operatsiya qo'lam haqida yagona nuqtai nazar yo'q.

Material. Buxoro viloyat ko'p tarmoqli tibbiyot markazining jarrohlik bo'limida davolanib, tekshirilgan 296 nafar turli xil toksik bo'qoqlar bilan og'rigan bemorlar.

Xulosa. Diffuz toksik bo'qoqni davolashning jarrohlik usullariga an'anaviy yondashuvlar natijalarining tahlili shuni ko'rsatdiki, 37,5% hollarda yaxshi natijalarga erishildi. Bemorlarning 46,4% da davolash natijalari qoniqarli deb topildi, 16% da - qoniqarsiz. Qalqon-simon bezdagi operatsiyalarning og'ir asoratlaridan biri, o'rganishlarimiz natijalaridan ko'rsatilganidek, ichki va operatsiyadan keyingi qon ketishdir. Bu turdagi asoratlar biz tomonidan 26 (14,0%) bemorda qayd etildi.

Tayanch iboralar: Diffuz toksik bo'qoq, thyrotoksikoz, davolashning jarrohlik usullari, operatsiyadan keyingi asoratlar

СРАВНИТЕЛЬНАЯ ХАРАКТЕРИСТИКА ХИРУРГИЧЕСКИХ МЕТОДОВ ЛЕЧЕНИЯ ДИФФУЗНОГО ТОКСИЧЕСКОГО ЗОБА

Хамроев У.П.

Бухарский государственный медицинский институт

АБСТРАКТ

Актуальность. Хирургическое лечение, являясь самым старым способом лечения диффузного токсического зоба, до настоящего времени играет важную роль в терапии больных с этим заболеванием. Несмотря на то, что большая часть зарубежных клиницистов предпочитают радиойодтерапию, некоторые исследователи рекомендуют расширять показания к хирургическому лечению диффузного токсического зоба. Однако в настоящее время нет единой точки зрения относительно объема операции при диффузном токсическом зобе.

Материал. Данные комплексного обследования и лечения 296 больных с диффузным токсическим зобом, находившихся на лечении и обследовании в отделении хирургии Бухарского областного многопрофильного медицинского центра.

Заключение. Анализ результатов традиционных подходов к хирургическим методам лечения диффузного токсического зоба показал, что в 37,5% случаев были достигнуты хорошие результаты. У 46,4% больных результаты лечения были констатированы как удовлетворительные, а у 16% - не удовлетворительные. Одним из грозных осложнений операций на щитовидной железе, как показали результаты наших исследований, являются интра- и послеоперационное кровотечение. Данный вид осложнения был отмечен нами у 26 (14,0%) больных.

Ключевые слова: Диффузный токсический зоб, тиреотоксикоз, хирургические методы лечения, послеоперационные осложнения