

# SURGICAL TREATMENT OF THYROID CANCER

**Malikov Muzaffar Abduvakhobovich**

Candidate of Medical Sciences (PhD)

Head and Neck Specialist

**Khudoyberdiyev Mukhiddin To‘rakulovich**

**Nigmonov Otabek Odilovich**

## Abstract.

This article discusses the surgical treatment of thyroid cancer, including indications for surgery, selection of the extent of surgical intervention, as well as postoperative complications and their prevention. The main treatment method for thyroid cancer is thyroidectomy (total or partial), and when necessary, lymph node dissection is performed. The effectiveness of surgical techniques, treatment strategies depending on the stage of the disease, and patient rehabilitation issues are analyzed.

**Keywords:** thyroid cancer, thyroidectomy, lymphadenectomy, surgical treatment, recurrence, rehabilitation.

**Аннотация.** В данной статье рассматриваются хирургические методы лечения рака щитовидной железы, показания к операции, выбор объема хирургического вмешательства, а также послеоперационные осложнения и меры их профилактики. Основным методом лечения рака щитовидной железы является тиреоидэктомия (полная или частичная), а при необходимости проводится диссекция лимфатических узлов. Проанализированы эффективность хирургических методов, лечебная тактика в зависимости от стадии заболевания и вопросы реабилитации пациентов.

**Ключевые слова:** рак щитовидной железы, тиреоидэктомия, лимфаденэктомия, хирургическое лечение, рецидив, реабилитация.

**Annotatsiya.** Ushbu maqolada qalqonsimon bez saratonining xirurgik davolash usullari, operatsiya ko‘rsatmalari, jarrohlik hajmini tanlash mezonlari hamda operatsiyadan keyingi asoratlari va ularni oldini olish choralarini yoritilgan. Qalqonsimon bez saratonida asosiy davolash usuli sifatida tiroidektomiya (to‘liq yoki qisman olib tashlash) va zarur hollarda limfa tugunlarini disseksiya qilish qo‘llaniladi. Maqolada jarrohlik usullarining samaradorligi, kasallik bosqichiga qarab davolash taktikasi va bemorlarni reabilitatsiya qilish masalalari tahlil qilingan.

**Kalit so‘zlar:** qalqonsimon bez saratoni, tiroidektomiya, limfadenektomiya, jarrohlik davosi, retsidiv, reabilitatsiya.

## Introduction

Thyroid cancer is one of the significant malignant tumors among endocrine system diseases. In recent years, an increase in the incidence of this condition has been observed. On the one hand, this trend is associated with improvements in diagnostic methods; on the other hand, it can be explained by environmental factors, radiation exposure, and genetic predisposition. Thyroid cancer occurs more frequently in women and is most commonly diagnosed in middle-aged patients. In the early stages, clinical symptoms may be minimal or completely absent. Therefore, in many cases, the disease is detected during routine medical examinations or investigations conducted for other reasons. The main morphological types of



thyroid cancer include papillary, follicular, medullary, and anaplastic forms. Their biological characteristics, growth rates, and prognoses differ significantly. Early diagnosis and the appropriate selection of treatment strategy are crucial for preserving the patient's quality of life and achieving favorable long-term outcomes. Currently, surgical intervention is considered the primary and most effective method of treatment for thyroid cancer. The extent of surgery depends on the type of tumor, its size, the degree of spread, and the involvement of lymph nodes [1]. Proper postoperative follow-up and the organization of additional therapeutic measures play an important role in preventing disease recurrence.

### **Literature Review**

In recent years, numerous scientific studies have been conducted on the treatment of thyroid cancer. The literature recognizes surgical management as the main and most effective therapeutic approach. According to international clinical guidelines, total thyroidectomy or hemithyroidectomy is selected in differentiated thyroid cancer depending on the stage of the disease and tumor size. In cases of metastatic involvement of lymph nodes, central or lateral neck lymphadenectomy is recommended. The literature also emphasizes the importance of preserving the recurrent laryngeal nerve and the parathyroid glands during surgical procedures. Many studies demonstrate that determining the extent of surgery based on an individualized approach reduces the risk of recurrence.

### **Methodology**

A review of scientific literature on the surgical treatment of thyroid cancer, clinical observation data, and practical surgical experience was conducted. During the study, patients' diagnostic results (ultrasound examination, fine-needle aspiration biopsy, and laboratory findings) as well as surgical techniques were analyzed. The extent of surgery was determined based on the morphological type of the tumor, its size, TNM classification stage, and the condition of the lymph nodes. Postoperative complications, recurrence rates, and follow-up outcomes were statistically analyzed and summarized.

### **Main Part**

Surgical treatment of thyroid cancer occupies a leading position in the comprehensive management of the disease. The treatment strategy is determined by the morphological type of the tumor, its size, the extent of spread, and the patient's general condition. In differentiated forms (papillary and follicular), surgical intervention demonstrates high effectiveness, and the long-term prognosis is relatively favorable [2]. The main types of surgical intervention are total thyroidectomy and hemithyroidectomy. In small, unilaterally localized tumors, removal of the affected lobe may be sufficient. However, if the tumor is large, extends beyond the capsule, or bilateral involvement is detected, total thyroidectomy is performed. This approach reduces the risk of recurrence and allows for more effective subsequent radioactive iodine therapy. In cases where lymph node metastases are identified, central or lateral neck lymphadenectomy is performed. The issue of prophylactic lymph node dissection is resolved on an individual basis. During surgery, it is crucial to preserve the recurrent laryngeal nerve and the parathyroid glands, as their damage may lead to complications such as voice changes or hypocalcemia. In the postoperative period, patients are kept under dynamic follow-up [3]. Hormone replacement therapy (levothyroxine preparations) is prescribed, and thyroid hormone levels are monitored regularly. When indicated, radioactive iodine therapy is recommended. Regular examinations and laboratory monitoring enable early detection of recurrence and timely intervention. When combined with an individualized approach, accurate diagnosis, and proper postoperative follow-up, surgical treatment of thyroid cancer provides high clinical outcomes.

Before planning surgical intervention, patients undergo a comprehensive clinical and instrumental evaluation. Ultrasonography is the primary method for determining tumor size, structure, and lymph node status. Fine-needle aspiration biopsy plays a key role in establishing the morphological type of the tumor. When necessary, computed tomography or magnetic resonance imaging is utilized.

Medullary and anaplastic forms have specific treatment characteristics. In medullary carcinoma, total thyroidectomy with extended lymphadenectomy is often recommended due to its tendency for early metastasis. Anaplastic carcinoma is characterized by aggressive progression and frequently requires combined treatment, including surgery, radiation therapy, and chemotherapy. The use of modern technologies in surgical practice increases operative safety. Intraoperative nerve monitoring helps reduce the risk of recurrent laryngeal nerve injury. Additionally, minimally invasive techniques may be applied in small tumors, shortening the postoperative recovery period and improving cosmetic outcomes [4].

Among postoperative complications, hypocalcemia, bleeding, wound infection, and voice changes may occur. Therefore, patients remain under close monitoring during the early postoperative period. In patients who undergo total thyroidectomy, lifelong hormone replacement therapy is recommended.

Long-term follow-up is essential for detecting disease recurrence. Measurement of thyroglobulin levels, ultrasound examination, and, when necessary, radioactive iodine diagnostics allow early identification of recurrence or metastases. Thus, the surgical treatment of thyroid cancer requires a multistage and comprehensive approach. Identifying risk groups is of great importance in the management of thyroid cancer. Patients classified as low-risk typically have small tumors confined within the thyroid capsule and no evidence of distant metastases. In such cases, the extent of surgery may be relatively limited. In contrast, patients in intermediate- and high-risk groups require more extensive surgical intervention, lymph node dissection, and additional radioactive iodine therapy [5].

Determining the stage of the disease according to the TNM classification is a key criterion in defining treatment strategy. Tumor size (T), lymph node involvement (N), and the presence of distant metastases (M) directly influence the scope of surgery. Surgical treatment performed at early stages demonstrates high effectiveness and is associated with significantly better survival outcomes [6].

In recent years, the principle of individualized and risk-adapted management has been widely applied in the treatment of thyroid cancer. For each patient, age, sex, comorbidities, and the biological characteristics of the tumor are taken into account. This approach helps reduce unnecessary surgical extent, minimize the risk of complications, and preserve quality of life.

The rehabilitation process is also an integral part of treatment. Patients remain under the supervision of an endocrinologist, and hormonal balance is regularly monitored. Psychological support is equally important, as a cancer diagnosis often leads to emotional stress. A properly organized follow-up and rehabilitation program facilitates patients' faster return to social and professional life. When combined with modern diagnostic methods, an individualized approach, and a comprehensive follow-up system, surgical treatment of thyroid cancer ensures high clinical effectiveness [7].

### **Conclusion**

Thyroid cancer is one of the most significant oncological diseases of the endocrine system, and surgical intervention plays a leading role in its effective treatment. The appropriate selection of the extent of surgery depends on the morphological type of the tumor, the stage of



the disease, the degree of lymph node involvement, and the patient's general condition. Total or partial thyroidectomy performed on the basis of an individualized approach reduces the risk of recurrence and enables the achievement of favorable long-term outcomes. In surgical practice, preservation of anatomical structures, particularly the recurrent laryngeal nerve and the parathyroid glands, is essential for minimizing postoperative complications. When necessary, combined treatment approaches, including lymphadenectomy and radioactive iodine therapy, are applied. Regular postoperative follow-up, hormone replacement therapy, and laboratory monitoring are crucial for early detection of recurrence and for maintaining the patient's quality of life. Thus, when combined with modern diagnostic methods, an individualized strategy, and comprehensive rehabilitation, the surgical treatment of thyroid cancer ensures high clinical effectiveness.

## References

1. Jaxongirovna, A. S., Hamidullayevna, Q. D., & Baxriddinovna, Y. G. (2024). Plants. *Journal of Agricultural and Geographical Sciences*, 2(3), 58–60.
2. Nuriddinovna, S. X., Baxriddinovna, Y. G., & Shavkatovich, T. I. (2023). The Importance of Ultrasound Markers in Infectious-Inflammatory Diseases of Newborns. *World of Science*, 6(4), 490–497.
3. Sirojiddinova, X. N., Yo'ldosheva, G. B., & Rahmatov, H. X. (2022). Clinical Features of Congenital Pneumonia. *Eurasian Journal of Medical and Natural Sciences*, 2(5), 109–114.
4. Aripova, S. M., & Bo'rixo'jayeva, H. S. (2016). *Medical and Social Foundations of a Healthy Generation*. Textbook. Tashkent.
5. Bob, V., & S. T. A. N. Diagnostikasi. *Theoretical Questions for Independent Study: Methods of Liver Imaging and Applied Radiopharmaceuticals (RFPs). Description of Contrast Agents and RFPs Used in Biliary Tract Examination. Characteristics of Gallstones.*
6. Oliy, V., Ta, R. M., Vazirligi, L., & Universiteti, N. D. *Human Anatomy and Physiology.*
7. Gaibnazarova, F. *Lecture Notes and Laboratory Manual on Human Anatomy.*