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A FAMILIAL CLINICAL CASE OF DIFFERENTIATED THYROID CANCER



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ҚАЛҚОНСИМОН БЕЗ САРАТОНИНИНГ ОИЛАВИЙ КЛИНИК ҲОЛАТИ

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СЕМЕЙНЫЙ КЛИНИЧЕСКИЙ СЛУЧАЙ ДИФФЕРЕНЦИРОВАННОГО РАКА ЩИТОВИДНОЙ ЖЕЛЕЗЫ

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Резюме. *Академик Ё.Х.Тўрақулов номидаги Республика ихтисослаштирилган эндокринология илмий-амалий тиббиёт марказида рўйхатга олинган оилавий дифференциаллашган қалқонсимон без саратони ҳолати тақдим этилган. Ёшлигида синглиси ва укасида қалқонсимон безнинг папилляр саратони ташхиси қўйилган. Касаллик қалқонсимон бездаги тугунларнинг кичик ўлчамлари, кўп ўчоқли шикастланиш ва регионар лимфа тугунларида метастазларнинг мавжудлиги билан тавсифланган.*

Калий сўзлар: *папилляр рак, кальцитонин, биопсия.*

Abstract. *A case of familial differentiated thyroid cancer registered in the Republican Specialised Scientific and Practical Medical Centre of Endocrinology named after acad. Y.Kh. Turakulov is presented. Papillary thyroid cancer was diagnosed in a sister and a brother at a young age. The disease was characterized by small size of nodes in the thyroid gland, a multifocal lesion and the presence of metastases in the regional lymph nodes.*

Keywords: *papillary thyroid cancer, calcitonin, biopsy.*

Introduction. Thyroid gland (thyroid) diseases are among the most common diseases of the endocrine system. The high frequency of occurrence of this pathology is due to the fact that practically the whole territory of Uzbekistan is a zone with mild iodine deficiency. Thus, the prevalence of endemic goiter in children and adolescents in Uzbekistan is 15-25%, and in some regions - up to 40% [1]. At the same time, in recent years there has been an increase in autoimmune pathology, nodular forms of goiter, thyroid cancer, requiring timely detection, examination and treatment of the of the patient. According to a large study conducted in Germany, the incidence of nodular goiter (NZ) in 3349 patients of childhood and adolescence was 9.3%, and in people from 20 to 30 years - 19% [3]. The detection of malignant tumors among thyroid nodules in children can be as high as 20 %, and a similar trend is determined in the case of autonomously functioning masses.

Papillary thyroid cancer (PTC) is the most common form of thyroid cancer in children and adolescents. It accounts for 70% to 90% of all malignant thyroid tumors in pediatric oncology. Childhood thyroid cancer is characterized by the following features: the appearance of a large number of metastases in lymph nodes, metastases are sometimes the only manifestation of the disease, the presence of “hidden” forms. hidden forms. Familial papillary thyroid cancer includes papillary or follicular cancers, which have a higher incidence in the family [4,7]. Compared to sporadic non-medullary thyroid carcinoma, familial papillary thyroid cancer is more common at a young age and correlates with a higher incidence in the family, more frequently at a young age and correlates with a high incidence of multifocal involvement and metastasis [6].

Clinical case. We observed a familial case of papillary thyroid carcinoma in a brother and sister. There was no heredity on oncologic and endocrinologic diseases on the mother's and father's side. Patient A., born in 1992, complained of headache, dizziness and a feeling of compression in the neck area. Weight - 49 kg. Height - 170 cm. BMI - 17. Ultrasound examination revealed a mass of 1.5×1.1×1.0 cm in the right lobe with echo structure corresponding to TIRADS 5. 0.9×0.6×0.6 cm, corresponding to TIRADS 3. TTH level was 1.1 mIU/L and calcitonin level was 7.41 pg/mL. The examination plan scheduled fine-needle aspiration biopsy (FAB) of the nodes with cytologic

examination, and determination of calcitonin and REA levels in the needle washings [5].

Calcitonin level in flushes from the right thyroid nodule was not more than 2.0 pg/ml, from the left thyroid nodule - 11.1 pg/ml. Investigation of REA level in blood and flush from the nodes

The study of the REA level in blood and washout from the thyroid nodules revealed the indices in the reference interval, which allowed to exclude the presence of medullary thyroid cancer.

Cytological examination of the biopsy specimen of the node of the right lobe of the thyroid revealed a group of cells of papillary adenocarcinoma of the thyroid - Bethesda VI category. The patient was operated. Thyroidectomy, ipsilateral central lymphadenectomy with control of the recurrent, laryngeal nerve and perithyroid glands using magnifying optics and INOMED neuromonitor were performed. Morphological examination of postoperative thyroid material showed the presence of papillary carcinoma in the right lobe with multiple encapsulated nodes with a maximum diameter of 1.5 cm. The nodules had follicular structure with the presence of psammomal cells, pronounced fibrosis and hyalinosis of the tumour stroma, calcium salts deposition. The tumour sprouted its own pseudocapsule. The surgical resection margin was located 0.1 cm from the tumour growth. A follicular adenoma of macro and microfollicular structure with foci of haemorrhage and accumulation of xanthoma cells, clearly delimited from the surrounding parenchyma of the gland, was found in the left lobe of the thyroid [8]. Outside the described changes the thyroid tissue had normofollicular structure with cystic enlargement of some of them. Micrometastasis of papillary cancer was found in one of 11 removed lymph nodes of paratracheal fibre.

In other lymph nodes - histiocytosis, reactive lymphoid hyperplasia. Conclusion of the morphological study - papillary thyroid cancer with multifocal growth, metastasis to the paratracheal lymph node in the form of a psammoma cyst. in the form of a psammoma cyst. Follicular adenoma of the left lobe of the thyroid gland. In the postoperative period, hormonal replacement therapy was prescribed levothyroxine at a dose of 75 mcg.

Patient R., born in 2005, brother of patient A. On admission complained about the presence of a voluminous mass on the anterior surface of the neck, headaches. Hereditary anamnesis - his sister (29 years old) was operated on for papillary thyroid cancer in December 1. Second sister (23 years old) suffers from rheumatoid arthritis, disabled since childhood for this disease.

The patient was first examined on 15.12.2023.

Ultrasound of the thyroid revealed a nodule in the right lobe of the thyroid, multiple calcinates in both lobes, which corresponded to TIRADS5. The patient was suspected to have thyroid cancer. Hospitalised in the endocrinological department for examination. The patient's condition is euthyroid, cortisol and ACTH levels were within the reference values. PTH - 58 pmol/l (norm 16-46.2 pmol/l), prolactin - 622 mMU/l (norm 60-600 mME/l). Vitamin D25(OH) content was reduced to 3 ng/ml. Oncomarkers AFP hCG - within reference values, REA was increased to 95 ng/ml. On ultrasound, the total volume of the thyroid was 12.6 cm3 , in the right lobe there was found a mass of 1.9×1.4 cm, with indistinct irregular contours, irregular shape due to hypoechogenic zones and hyperechogenic inclusions (microcalcinates) [9,13]. Subclavian and supraclavicular lymph nodes were visualised. MSCT of the chest with contrast was found supraclavicular and sternal lymphadenopathy. Hospitalisation was recommended to clarify the diagnosis.

Metastases were detected in the lymph nodes of the lateral triangle on the right side. In the needle flush at puncture of lymph nodes of the left lateral triangle thyroglobulin - 3.95 ng/ml, lateral triangle on the right - thyroglobulin > 500 ng/ml. The patient was in euthyroid state. On 24.01.2022. an operation was performed: the patient underwent thyroidectomy with microsurgical neurolysis of the recurrent laryngeal nerves, central and lateral lymphadectomy on the right side. The postoperative period proceeded smoothly, swallowing was not disturbed, voice was not changed. In the postoperative period he received levothyroxine sodium in a dosage of 125 mcg.

The histological study dated 24.01.2024 revealed that the nodule with a maximum diameter of 1.7 cm in the upper pole and the middle part of the right thyroid lobe is represented by papillary carcinoma of classical and follicular structure, with an abundance of psammoma cells, pronounced fibrosis and hyalinosis of the tumour stroma (Fig.1).

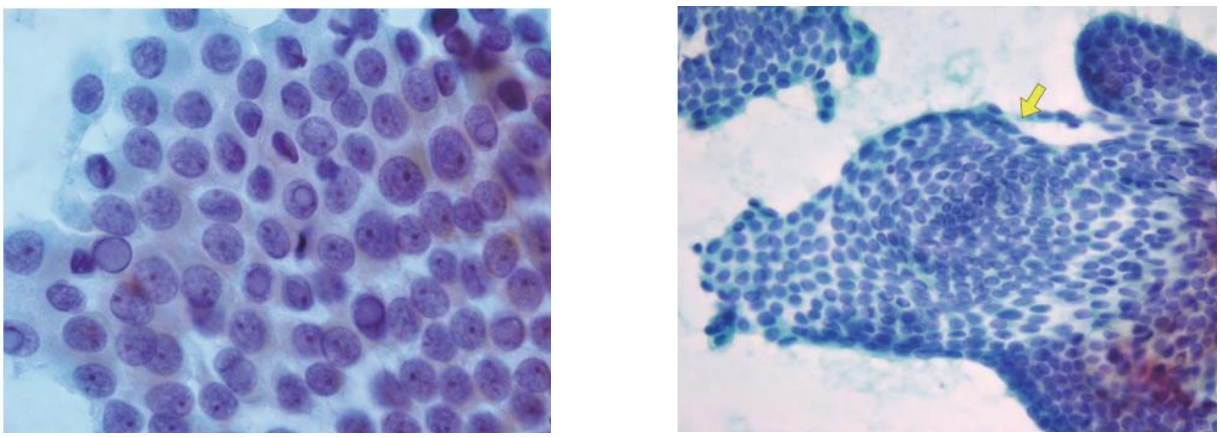

Fig.1. Cellular swirls (arrows), identified by flat, two-dimensional, concentrically organized aggregates of tumor cells devoid of colloid, are specific features of papillary thyroid carcinoma

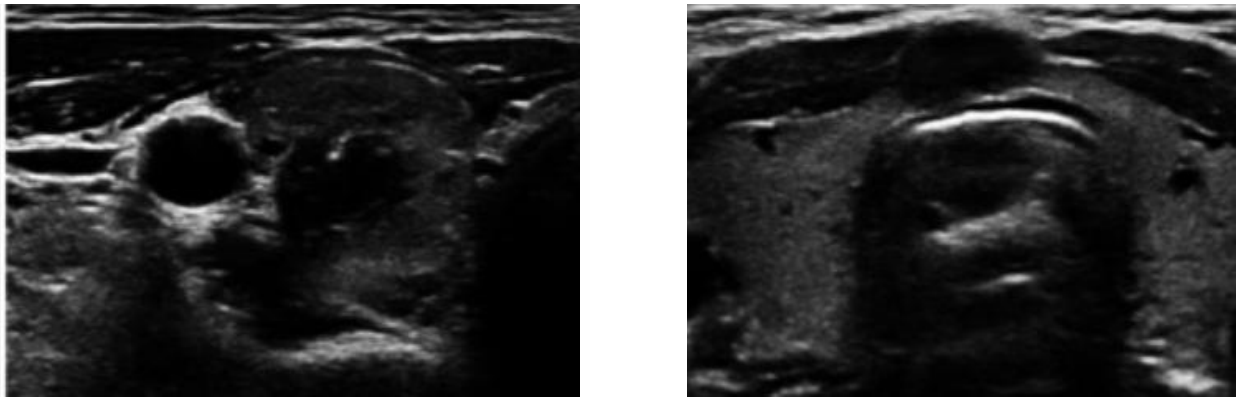

Fig.2 Solid nodule with marked hypoechogenicity, which is hypoechoic relative to the anterior neck muscles, and punctate echogenic foci (K-TIRADS 5, high suspicion)

Massive tumour embolism of small thin-walled blood vessels of small thin-walled blood vessels, signs of per- and intraneural tumour growth were not reliably found. The tumour sprouted the capsule of the thyroid lobe, infiltrated the fatty fibre, ingrowing into the fragment of the adjacent transverse striated muscle, tumour emboli were observed in the lumen of blood vessels among the muscle fibres [12]. Surgical resection margin without tumour cells. Multifocal growth of papillary cancer in the thyroid isthmus was also found in the form of multiple foci with the maximum diameter of 1 cm with ingrowth into the capsule of the thyroid isthmus. Surgical resection margin without tumour cells. The tissue of the left thyroid lobe had predominantly macrofollicular structure with macrofollicular goitre nodules and psammoma cells scattered in the lobe parenchyma. Metastases were found in 10 out of 18 removed lymph nodes of paratracheal fatty fibre, in 5 out of 43 lateral neck fibres, in 2 out of pretracheal fibres (Fig.2).

Two months after surgery, ultrasound revealed lymph nodes on the right and left side of the paratracheal region with sizes ranging from 4 to 12 mm. In preparation for Levothyroxine sodium was cancelled in preparation for radioiodotherapy. One month later, the TTG level increased to 99.1 mIU/l, thyroglobulin content was 6.43 ng/ml, thyroglobulin antibodies were 94.33 Me/ml. 01.04.2022 hospitalised in FGBOU 'NMRC Endocrinology' for radioiodotherapy, taking into account, that the patient belongs to the group of increased cancer progression / recurrence of thyroid cancer. 3620 MBq 1-131 sodium iodide was administered per os with therapeutic purpose. There were no complications or allergic reactions [10]. On post-therapy scintigrams in the projection of the middle and lower thirds of the neck two foci of radiopharmaceutical (RFP) hyperfixation of different intensity were found. The inclusion in the foci is 1.6 % of the count over the whole body. No pathological inclusions of RFP in other organs were found. were found.

04.04.2024 dosimetry was carried out, external radiation indicators comply with NRS 99/2009. Radiation dose rate from the body at a distance of 1 m is 19.9 μSv/h. There is a residual background of ionising radiation from the patient (permissible by radiation safety norms) [11], which may persist up to 10-12 days (rules of behaviour were explained, recommendations on radiation safety were issued). In January 2024 it was examined. According to the results of ultrasound and MRI, no signs of disease recurrence were found. Receives therapy with levothyroxine sodium at a dose of 150 mcg/day.

Conclusions. Papillary thyroid cancer was diagnosed in a sister and brother at a young age. The disease was characterised by small nodule size in the thyroid gland, multifocal lesions and the presence of metastases.

Literature:

1. Abdulkhabirova F.M., Vanushko V.E., Soldatova T.V., Troshina E.A. Nodular goitre: A methodological manual. Consilium Medicum. 2019; 21 (12). DOI: 10.26442/20751753. 2019.12.190681
2. Ivannikova T.E., Bezlepkina O.B., Abdulkhabirova F.M., Abrosimov A.Y., DegtyaRev M.V., Zubkova N.A. Nodular toxic goitre in children: peculiarities of clinical features. goitre in children: peculiarities of clinical picture, morphological variants. peculiarities of clinical picture, morphological variants. Problems Endocrinology 2021; 67 (2): 102-110. DOI:10.14341/probl12738
3. Clinical guidelines Cancer of the thyroid gland, available at:thyroid cancer, available at: https://edu.endocrincentr.ru/sites/default/files/recommendation_pdf/kr74.pdf
4. Huang TY, Assor D. Primary squamous cell carcinoma of the thyroid gland: A report of four cases. Am J Clin Pathol (1971) 55:93–8. doi: 10.1093/ajcp/55.1.93 [DOI] [PubMed] [Google Scholar]
5. Zhou XH. Primary squamous cell carcinoma of the thyroid. Eur J Surg Oncol (2002) 28:42–5. doi: 10.1053/ejso.2001.1180 [DOI] [PubMed] [Google Scholar]
6. Au JK, Alonso J, Kuan A, Arshi EC, St John MA. Primary squamous cell carcinoma of the thyroid: A population-based analysis. Otolaryngol Head Neck Surg (2017) 157:25–9. doi: 10.1177/0194599817698436 [DOI] [PubMed] [Google Scholar]
7. Syed MI, Stewart M, Syed S, Dahill S, Adams C, Mclellan DR, et al. Squamous cell carcinoma of the thyroid gland: primary or secondary disease? (2011) 125(1):3–9. doi: 10.1017/S0022215110002070 [DOI] [PubMed] [Google Scholar]
8. Yang S, Li C, Shi X, Ma B, Xu W, Jiang H, et al. Primary squamous cell carcinoma in the thyroid gland: A population-based analysis using the SEER database. World J Surg (2019) 43:1249–55. doi: 10.1007/s00268-019-04906-2 [DOI] [PubMed] [Google Scholar]
9. Liang C, Yue C, Zhanwen H, Wu J. Primary squamous cell carcinoma of the thyroid on FDG PET/CT. (2014)

39(11):1014. doi: 10.1097/RLU.0000000000000511 [DOI] [PubMed] [Google Scholar]
10. Shrestha M, Sridhara SK, Leo LJ, Coppit GL, Ehrhardt NM. Primary squamous cell carcinoma of the thyroid gland: A case report and review. Head & Neck (2013) 35(10), E299–E303. doi: 10.1002/hed.23152 [DOI] [PubMed] [Google Scholar]
11. Cheng J, Wang K. A clinical pathologic analysis in 8 cases of primary squamous carcinoma of thyroid gland. (1997) 3:162. [Google Scholar]
12. Asik M, Binnetoglu E, Sen H, Gunes F, Muratli A, Kankaya D, et al. Less aggressive disease in patients with primary squamous cell carcinomas of the thyroid gland and coexisting lymphocytic thyroiditis. Contemp Oncol (2016) 19(6):458–61. doi: 10.5114/wo.2015.53372 [DOI] [PMC free article] [PubMed] [Google Scholar]
13. Wan Muhaizan WM, Phang KS, Sharifah NA, Al Amin D. Primary squamous cell carcinoma of the thyroid–a case report. J Malaysian J Pathol (1998) 20(2):109. [PubMed] [Google Scholar]

СЕМЕЙНЫЙ КЛИНИЧЕСКИЙ СЛУЧАЙ ДИФФЕРЕНЦИРОВАННОГО РАКА ЩИТОВИДНОЙ ЖЕЛЕЗЫ

Халимова З.Ю., Омилжонов М.Н., Алимджанов Н.А.

Резюме. *Представлен случай семейного дифференцированного рака щитовидной железы, зарегистрированный в Республиканском Специализированном научно-практическом медицинском центре эндокринологии им.акад. Ё.Х. Туракулова. Папиллярный рак щитовидной железы был диагностирован у сестры и брата в молодом возрасте. Заболевание характеризовалось небольшими размерами узлов в щитовидной железе, многоочаговым поражением и наличием метастазов в региональных лимфатических узлах.*

Ключевые слова: *папиллярный рак, кальцитонин, биопсия.*