

Actualities in the diagnosis and treatment of thyroid cancer in Albania

Abstract

Thyroid cancer remains the most common endocrine malignancy and accounts for almost 1% of human cancer. Early positive diagnosis of thyroid cancer in an apparently benign nodule is sometimes a difficult challenge. Over the past three decades, the incidence of thyroid cancer has increased almost two fold worldwide, without any changes in the mortality rates. The aim of this short communication is to present the actual status of diagnosis and treatment of thyroid cancer in Albania. In our study we have analyzed the preoperative clinical database of 262 patients, divided in 206 females and 56 males, admitted in the Clinic of General Surgery, UHC “Mother Theresa” in Tirana in the timeframe 2004-2011; all with a positive histopathologic diagnosis of thyroid diseases. The histologic types of thyroid cancer cases were: papillary 28 (67%) patients; follicular 10 (24%) patients, medullary 3(7%) and anaplastic 1(2%) patient. Final data obtained from FNAB were: Uncertain-18%; Benign-62%, Suspicious-7% and Malignant-13%. The sensitivity of FNAB was 94%, meanwhile specificity was 96%. The overall incidence of thyroid cancer in albanian population is 0, 6/100 000, being slightly greater in females. Evaluating all thyroid nodules for malignancy is difficult and sometimes unproductive, because thyroid carcinoma is rare. Fine Needle Aspiration Biopsy is the procedure of choice in evaluating suspicious thyroid nodules and was used in all our patients with a sensitivity of 94%. Close collaboration between different specialties is the key to correct preoperative thyroid cancer diagnosis and treatment. FNAB remains the most accurate diagnostic method detecting thyroid cancer. Optimal treatment of thyroid cancer and the associated survival depends mostly in a multidisciplinary treatment approach, focused on surgery. All actual guidelines agree that tot Thyroidectomy and other therapeutic modalities, such as radioiodine treatment or adjuvant radiation are necessary for the maximum survival of these patients.

Keywords: thyroid carcinoma, FNA, papillary cancer, solitary nodule, medullary, mother theresa, diagnosis, carcinoma, radiation, mortality rates, Albania, age, cancer

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Dashamir Gjergji,¹ Mehdi Alimehmeti,²
Xheladin Dracini,² Adrian Kristo,² Thanas
Furera²

¹Central Policlinic of Specialities, Albania

²UHC Mother Theresa, Albania

Correspondence: Dashamir Gjergji, Central Policlinic of Specialities, Tirana, Albania, Email gjergjid2000@yahoo.com

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Introduction

Thyroid cancer is associated with low mortality, but it remains the most common endocrine malignancy and accounts for almost 1% of human cancer. It is well known that the majority of cases occur in women in the middle of life. Thyroid cancer is a relatively rare disease; on the other hand clinically apparent thyroid nodules are present in 4-7 % of the overall adult population. Most thyroid nodules are not malignant, with reported malignancy rates from 3-12%. Early positive diagnosis of thyroid cancer in an apparently benign nodule is sometimes a difficult challenge. Cancer remains a major healthcare problem in Albania. The lack of approved guidelines for optimal treatment and of a National Cancer Registry contributes greatly to the increased mortality of these patients. Although the overall 5-year survival rate for thyroid cancer approaches 97%; this disease differs from many other adult cancers in that in more than 60% of cases it affects young people between the ages of 20 to 55 years. Over the past three decades, the incidence of thyroid cancer has increased almost two fold worldwide, without any changes in the mortality rates. The increase is thought due to a rise in the papillary cancer rates, caused perhaps from the increase of the environmental radiation and improved diagnostic accuracy. The aim of this communication is to present the actual status of diagnosis and treatment of thyroid cancer in Albania.

Patients and methods

In our study we have analyzed the preoperative clinical database of 262 patients, divided in 206 (79%) females and 56 (21%) males, admitted in the Clinic of General Surgery, UHC “Mother Theresa” in Tirana and the Registry of the Department of Pathology in the timeframe 2004-2011; all with a positive histopathologic diagnosis of thyroid diseases, including cancer. The data comprised age, sex, age distribution, time - lapse from the first endocrinologic visit, clinical examination, signs and symptoms, imaging, functional tests, preoperative FNA, admission diagnosis, associated diseases and preoperative, operative and postoperative treatment. The classification of thyroid cancer was made according to NCCN Clinical Practice Guidelines on Oncology (Version 3.0 2011). All patients' data were analyzed using SPSS package, version 15.

Results

From 2004 - 2011 (8 years), 262 patients were admitted in the Clinic of General Surgery, UHC “Mother Theresa” in Tirana, included in the Registry of Department of Pathology. All the patients were diagnosed and classified according the histopathologic diagnosis. Demographic data of all patients shows a M: F ratio of 1: 3, 7, 206 females (79%) and 56 (29%) males. The average age was 34, 5 +/- 12, 6 (16-71) years. Regarding the findings of clinical examination,

fast apparent growth of the thyroid gland was observed in 53% of the patients, and localized nodule in palpation in 90% of cases. From the study emerged that the thyroid pathologies resulted benign in 220 (84%) patients and malignant in 42 (16%) patients, diagnosed as thyroid cancer. The histologic types of thyroid cancer were as follows: papillary 28 (67%) patients; follicular 10 (24%) patients, medullary 3 (7%) and anaplastic 1(2%) patient. The overall morph pathology of thyroid gland resulted multinodular in 153 (58%) patients and uninodular in 109 (42%) patients; the percentage of cancer in uninodular goiters was greater than in multinodular (23%vs13%). The morphologic nature of the diagnosed nodules was defined as cystic in 20% of cases, solid in 50% of cases and mixed type in 30% of cases. The characteristics of thyroid nodules included asymmetry in 30% of cases and fixed nodules in 71% of cases. FNAB was accurate in determination of the correct diagnosis in 80% of cases. Final data obtained from FNAB were as follows: Uncertain-18%; Benign -62%, Suspicious-7% and Malignant -13%. The sensitivity of FNAB was 94%, meanwhile specificity was 96%. Specific accuracy of FNAB in detecting cancer was 97%. Overall prevalence of cancer in nodular goiters was 16%. Among the signs and symptoms related to thyroid cancer we found that 40 and 33% of these patient presented dyspnea and dysphasia, respectively. The physical examination in thyroid cancer patients revealed apparent nodular growth of the thyroid gland in 81% and hard nodular consistency in 79% of cases. The time lapse from the first endocrinologic visit was ca. 4 months.

Discussion

Thyroid nodules are more common in women than men. Palpable nodules increase in frequency through the entire life, reaching a prevalence of 4-7% of the entire population aged 50 year or older. The development of new nodules in higher rates is observed principally after head and neck irradiation. On the other hand, the lifetime risk of being diagnosed with thyroid cancer is less than 1%. The overall incidence in Albanian population is 0, 6/100 000, being slightly greater in females.¹⁻¹⁰ Evaluating all thyroid nodules for malignancy is difficult and sometimes unproductive, because thyroid carcinoma is rare. Both benign and malignant thyroid nodules are mostly asymptomatic and correct diagnosis is difficult. Half of malignant nodules are discovered during routine physical examination, imaging studies or surgery for supposed benign thyroid diseases. Thyroid cancer was more common in patients aged > 65 years. Although thyroid diseases can occur in any age, the peak incidence is around 35 years, fully confirmed by our patient's data. The patient age and gender remain an important factor in predicting thyroid cancer. The risk of malignancy is higher in patients younger than 15 years and older than 45 years. The most affected gender from thyroid cancer was females. Other factors that increase the suspicion of malignancy include a history of head and neck irradiation and positive history of diseases associated with thyroid carcinoma in multiple endocrinopathies syndromes. Only 23% of solid nodules resulted cancer, meanwhile in the mixed-type nodules the percentage of cancer resulted 15%. From the study emerged that solid nodules have the greater percentage of thyroid cancer. Thyroid cancer was found more frequently in 'cold' nodules, in comparison with other nodular pathologies included in the study (21% vs 11% and 5% in 'hot' and iso-uptake types). Clinical examination is very important in the diagnosis of thyroid cancer. Dyspnoea, dysphonic and dysphagia were important symptoms related with thyroid cancer. Imaging techniques and functional tests of thyroid are important in correct diagnosis of thyroid pathologies, including cancer. Imagery data, suspicious of thyroid cancer are deviation of trachea, solitary

nodule, adenopathy etc. In the thyroid cancer patients was observed a higher prevalence of hypothyroidism (35% vs. 14% and 6% in norm thyroid and hyperthyroid patients respectively). Fine Needle Aspiration Biopsy (FNAB) is the procedure of choice in evaluating suspicious thyroid nodules and was used in all our patients with a sensitivity of 94%. In the treatment of thyroid cancer, several options may be considered such as surgery; radioiodine therapy; external beam radiation and thyroid hormone suppression in a multidisciplinary frame, including surgeons, pathologists, radiologists, endocrinologists and clinical pharmacists. Surgery is the optimal treatment for differentiated thyroid cancer. The aim of surgery in differentiated thyroid carcinoma is to eradicate all visible tumor foci and local lymph nodes. Actual surgical guidelines recommend that most patients with differentiated thyroid cancer are best treated by total (or at least near-total) thyroidectomy, followed by radioiodine therapy. On the other hand, in undifferentiated thyroid cancer, as anaplastic carcinoma, the surgical treatment is indicated primarily for palliative relief of airway obstruction.¹¹⁻¹³

Conclusion

In our opinion, close collaboration between endocrinologists and surgeons in a multidisciplinary frame is the key to correct preoperative thyroid cancer diagnosis and optimal treatment. FNAB remains the most accurate diagnostic method in detecting thyroid cancer. Thyroid cancer is a very serious disease and its optimal treatment and associated survival depends mostly in a multidisciplinary treatment approach, focused on surgery. All actual guidelines agree that total thyroidectomy is recommended as treatment of choice in the majority of cases. Other therapeutic modalities, such as radioiodine treatment or adjuvant radiation are necessary for the maximum survival of these patients.

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Conflicts of interest

The author declares there is no conflict of interest.

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