

## CASES OF INCIDENTAL PAPILLARY CARCINOMA IN THYROIDECTOMY MATERIALS IN THE ELDERLY

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### ABSTRACT

**Objective:** Papillary microcarcinomas constitute more than half of thyroid cancers and incidentally detected between 2.7% and 36% ratios in all age groups in autopsy studies. Our aim in this study was to evaluate the incidental papillary thyroid carcinoma in surgical materials sent to the pathology department of 60 years and older patients.

**Materials and methods:** In this study, 307 thyroid surgery materials were screened from the archive of the Department of Pathology in Iskenderun State Hospital between January 2012 and November 2013. 27 thyroid specimens of patients over 60 years and older with definite diagnosis were evaluated.

**Results:** Between the ages of 60 to 84 the mean age of the patients was  $65.70 \pm 5.60$ . 19 (70.37%) of the patients were females, 8 (29.63%) of the patients were males. Histopathological examination of the subjects revealed nodular goiter in 16 (59.26%) cases, lymphocytic thyroiditis in 3 (11.11%) cases, granulomatous thyroiditis in one (3.70%) case, thyroid tumors in 6 (22.22%) cases. In this age group no benign tumors (adenomas) have been detected and all of the six tumors (22.22%) were malignant. Type of cancer were detected as oncocyctic carcinoma in one (3.70%) case and papillary carcinoma in 5 (19.52%) cases.

**Conclusion:** In our study we detected that 22.22% of thyroid pathologies of over 60 years old patients were malignant. In this study, although the number of cases is small, we reached a remarkable conclusion in terms of the frequency of malignant thyroid pathologies in the elderly. Further prospective studies with a greater number of patients will be beneficial.

**Key words:** Ageing, papillary thyroid cancer, thyroid cancer.

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### Introduction

Thyroid nodule is a term used to define benign or malignant space-occupying formations in the thyroid gland<sup>(1)</sup>. Thyroid nodules are found as a palpable mass in clinical examination or incidentally during routine screening or radiological examinations<sup>(2)</sup>. Although most of the glands found normal in examination with palpation, small nodules detected with ultrasonography (USG) and this shows the prevalence and importance of nodular goiter<sup>(3)</sup>. Thyroid cancers constitutes approximately 1% of all malignancies.

Thyroid cancers are one of the most common endocrine malignancies<sup>(4)</sup>. The annual incidence of thyroid cancer is 3.2 in 100.000 women and 1.3 in 100.000 men<sup>(5)</sup>.

Papillary Thyroid Carcinoma (PTC) smaller than 10 mm is called as papillary thyroid microcarcinoma (PTMK)<sup>(3)</sup>. Papillary microcarcinomas constitute more than half of thyroid cancers<sup>(6)</sup>. In autopsy studies, incidental detection of PTMK ratio is reported between to be 2.7% and 36% in all age groups<sup>(7)</sup>.

In this study, we aimed to evaluate the incidental papillary thyroid carcinoma in 60 years and older patients who their surgical materials sent to the pathology department.

### Materials and methods

In this study, 307 thyroid surgery materials were screened from the archive of the Department of Pathology in Iskenderun State Hospital between

January 2012 and November 2013. 27 thyroid specimens of patients over 60 years and older with definite diagnosis were evaluated. Age, gender and pathological diagnoses of the subjects were obtained from the pathology reports.

## Results

Between the ages of 60 to 84 the mean age of the patients was  $65.70 \pm 5.60$ . 19 ( 70.37 % ) of the patients were females, 8 (29.63%) of the patients were males. Histopathological examination of the subjects revealed nodular goiter in 16 (59.26%) cases, lymphocytic thyroiditis in 3 (11.11%) cases, granulomatous thyroiditis in one (3.70%) case and thyroid tumors in 6 (22.22%) cases. In this age group no benign tumors (adenomas) have been detected and all of the six tumors (22.22%) were malignant. Type of cancer were detected as oncocytic carcinoma in one (3.70%) case and papillary carcinoma in 5 (19.52%) cases .

11 (68.75%) of the nodular goiter cases were females whereas 5 (31.25%) of them were males. The mean age of the nodular goiter cases was  $67.68 \pm 6.59$  ranging from 60 to 84.

3 (11.11%) of thyroiditis patients were lymphocytic thyroiditis, whereas one (3.70%) of granulomatous thyroiditis. All the cases of lymphocytic thyroiditis were females. The mean age of the lymphocytic thyroiditis cases was  $62.33 \pm 2.08$  ranging from 60 to 64. The only patient with granulomatous thyroiditis was female and 62 years old.

The one (3.70%) patient with a diagnosis of diffuse toxic goiter was male and 63 years old.

Also there was only one (3.70%) 65 years old male patient with oncocytic carcinoma. 4 (80%) of the 5 (19.52%) cases of papillary carcinoma were females and 1 ( 20%) of them was male. The mean age of these cases was  $61.00 \pm 2.45$  ranging from 6 to 64.

## Discussion

Female to male ratio in thyroid diseases is reported to be between 3.5-12<sup>(8,9)</sup>. Female predominance is known in nodular goiter , in subclinical and overt thyroid diseases , in regions where iodine deficiency is present or not<sup>(8,10,11)</sup>. In the study of Gül et al., it is detected that important part of the patients with overt or subclinical thyroid dysfunction under and over the age of 65 were females<sup>(12)</sup>. In a study, Bozkurt and Bektas investigated 241

cases for the prevalence of thyroid cancer in patients operated for nodular goiter and detected that 222 (92.1%) of the cases were females and 19 (7.9%) were males<sup>(13)</sup>. In our study, 19 (70.37%) of our patients were females and 8 (29.63%) were males.

The prevalence of thyroid nodules increases with ageing<sup>(14)</sup>. Solitary nodules can be detected by physical examination in the 6-10% of elderly, this proportion reaches to 50% by ultrasonography<sup>(15,16)</sup>. Diez reported the prevalence of non-toxic multinodular goiter as 51.3%, toxic multinodular goiter 23.8%, solitary thyroid nodules 9.8% and toxic adenoma as 5% in his cross-sectional study done with 634 cases aged between 55 and 91<sup>(17)</sup>. In the study of Bozkurt and Bektaş, 197 (81.7%) of patients were nodular goiter<sup>(13)</sup>. In our study, 16 of the patients were nodular goiter and 59.26 % of all our cases.

Graves disease is the most common cause of hyperthyroidism in the elderly, but with ageing also the incidence of multinodular toxic goiter increases<sup>(18)</sup>. In the study of Diez, the ratio of Graves disease was reported as 4.3%<sup>(17)</sup>. In our study, only one case as diffuse toxic goiter (Graves) was observed and this represents 3.70 % of all our cases.

Acute and subacute thyroiditis is rare in elderly than in younger<sup>(14)</sup>. In the study of Diez, the ratio of thyroiditis was 0.5%<sup>(17)</sup>. In the study of Bozkurt and Bektaş, 31 (12.9%) patients were lymphocytic thyroiditis<sup>(13)</sup>. In our study, there were 3 (11.11%) cases with lymphocytic thyroiditis and one (3.70%) case with granulomatous thyroiditis.

The histological type of thyroid cancers distribution in all age groups is as 79% papillary, 13% follicular, 3% Hurtle cell, 3.5% medullary, 1.7% anaplastic<sup>(14)</sup>. The most common type of thyroid cancer in geriatric individuals is papillary carcinoma (64%) similar to population of all ages<sup>(14)</sup>. Hurtle cell and follicular cell carcinoma (20%) increases in this age group<sup>(14)</sup>. In the study of Bozkurt and Bektaş, 13 (5.4%) of the patients were diagnosed with thyroid tumors and 2 (0.8%) of benign, 11 (4.6%) were malignant<sup>(13)</sup>. Two of the benign tumors were follicular adenoma and 1 (0.4%) case was oncocytic variant of follicular carcinoma, 10 (4.2%) cases were papillary carcinoma. In our study, 5 (19.52%) papillary and one (3.70%) oncocytic carcinoma were observed. In the study of Bozkurt and Bektaş, one case with oncocytic variant of follicular carcinoma was a 30-year old male patient, 8 (80%) of the cases of papillary carcinoma were females, and 2 (20%) of papillary carcinoma were males<sup>(13)</sup>.

In our study, one case with oncocytic carcinoma was 65 years old male patient. 4 (80%) of the cases of papillary carcinoma were females, and 1 (20%) case of papillary carcinoma was male.

Preoperative tests for these diagnosed cancers revealed no finding in favor of a malignancy and so no pre-existing diagnosis of malignancy were available.

### Conclusion

In our study we detected that 22.22% of the of thyroid pathologies in patients over 60 years old were malignant. In this study, although the number of cases are small, we reached a remarkable conclusion in terms of the frequency of malignant thyroid pathologies in the elderly. Further prospective studies with a greater number of patients will be beneficial.

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