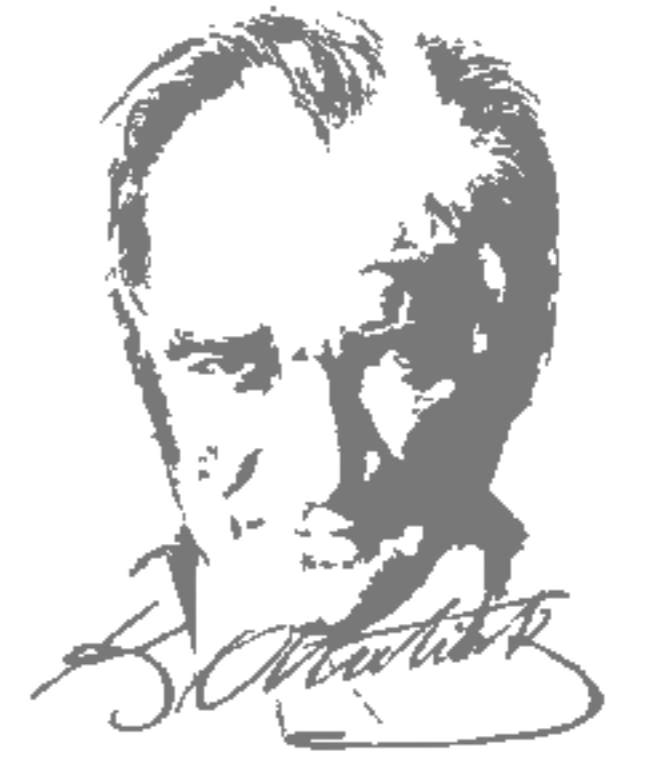




THYROID MALIGNANCY RISK OF INCIDENTAL THYROID NODULES IN PATIENTS WITH NON-THYROID CANCER

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Objective

Thyroid incidentaloma is a common endocrinological disorder. Current literature regarding the risk of thyroid cancer in incidentalomas found in patients with non-thyroid cancer is limited. The aim of the present study was to investigate the frequency of thyroid malignancy in thyroid incidentalomas detected in patients with non-thyroid cancer.

Methods

FNABs of 287 thyroid nodules from 161 patients with a history of non-thyroid cancer were retrospectively evaluated. Ultrasonography guided FNABs (US-FNABs) were performed by experienced endocrinologists in Gazi University Endocrinology and Metabolism Clinics between January 2008 and February 2014. The study protocol was approved by the local ethic committee.

The maximal diameters of the nodules, cytology results of FNABs, and the types of the primary tumors were recorded. FNAB results from all patients and histopathology results of the nodules underwent thyroid surgery were recorded.

The indications for FNABs in the first visit and follow-up were size of the nodule (nodule maximal diameter > 10 mm), or any suspicion of thyroid malignancy (rapid growth of the nodule), physical examination findings like fixed nodule or suspicious ultrasonographic findings (microcalcifications, central vascularity or irregular border). US-FNABs were performed under the guidance of continuous real time US with a 22-gauge needle attached to a 10-mL disposable plastic syringe without local anesthesia. Each nodule was aspirated at least twice. Materials obtained from FNABs were immediately smeared on glass slides after aspiration and fixed by air-drying. Thyroid FNAB results were categorized according to Bethesda classification

Results

From 287 thyroid nodules, 69.7 % had a benign final cytology. Thyroid cancer detected in one nodule while follicular neoplasia detected in 4 nodules, atypia of unknown significance (AUS) detected in 10 nodules, hurthle cell neoplasia detected in 5 nodules and suspicious for malignancy detected in 6 nodules according to fine needle aspiration biopsy results. Metastasis of the non-thyroid cancer to the thyroid gland were detected in 4 nodules. Twenty seven nodules from 15 patients were removed with surgery. There were 3 malignant nodules found after surgery (1 papillary, 1 follicular and 1 medullary cancer). In addition to these three thyroid cancers, two patients with benign nodules had co-incidental thyroid cancer detected after surgery. Finally, 11.1 % of thyroid nodules which underwent thyroid surgery had malignant histopathology except co-incidental and metastatic cancers.

	Histopathological Results			
	Benign	Papillary cancer	Follicular cancer	Medullary cancer
Benign Cytology	13	0	0	0
Follicular neoplasia	1	0	0	0
AUS	2	0	0	0
Suspicious Cytology	4	0	1	0
Hurthle cell Cytology	1	0	0	0
Malignant Cytology	0	0	0	1
Insufficient	3	1	0	0
Total	24	1	1	1

Conclusions

In the present study, we showed that the frequency of thyroid malignancy in incidentally found thyroid nodules during the imaging studies performed for the investigation of non-thyroid cancer who underwent surgery was 11.1 % when we exclude co-incidental thyroid cancers and metastasis to the thyroid gland.

The distribution of FNAB cytology results from different non-thyroid cancers seems to be similar as breast cancer was the most frequent non-thyroid cancer type. Recent publications mostly targeted the incidental thyroid nodules found with FDG-PET/CT performed for non-thyroid cancer. However, we included thyroid incidentalomas detected with either of all imaging studies. This may partly explain low cancer rates found in our study.

One of the limitations in our study is the relatively high number of patients with thyroid incidentalomas who could not be evaluated with further tests (re-biopsy, operation) because of poor health status.

In conclusion, our study is a large study group which is evaluating incidentalomas found in non-thyroid cancer patients all with FNAB and indicates that frequency of thyroid malignancy seems not to be substantially increased when these patients were evaluated in nodule-based approach. Future studies are needed to compare the thyroid malignancy risk in thyroid incidentalomas from non-thyroid cancer patients with the incidentalomas from healthy subjects.

References

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	Breast cancer	Lung cancer	GU cancer	Gynecologic cancer	GIS cancer	Skin cancer	Hematologic cancer	Other
Benign	76 (80.9)	10 (58.8)	11 (64.7)	11 (61.1)	16 (59.3)	10 (66.7)	54 (68.4)	12 (60.0)
Follicular neoplasm	0 (0)	0 (0.0)	1 (5.9)	0	0	0	3 (3.8)	0
AUS	3 (3.2)	1 (5.9)	1 (5.9)	1 (5.6)	3 (11.1)	0	0	1 (5.0)
Hurthle cell neoplasia	1 (1.1)	0 (0.0)	0	1 (5.6)	0	0	2 (2.5)	1 (5.0)
Suspicious for cancer	2 (2.1)	0 (0.0)	0	0	0	0	3 (3.8)	1 (5.0)
Malignant	0 (0)	0 (0.0)	1 (5.9)	0	0	0	0	0
Metastasis	0 (0.0)	2 (11.8)	0	0	0	0	2 (2.5)	0
Insufficient	12 (12.7)	4 (23.5)	3 (17.6)	5 (27.7)	8 (29.6)	5 (33.3)	15 (19.0)	5 (25.0)