

Value of Neutrophil to Lymphocyte Ratio in Predicting Malignancy in Thyroid Nodules Diagnosed as Follicular Neoplasm on Cytology

Neslihan Soysal-Atile¹, Nuray Can², Sibel Güldiken³, Hüseyin Çelik³, Atakan Sezer⁴, Dogan Albayrak⁴, Armagan Tugrul³

¹Tekirdag State Hospital, Endocrinology Department, Tekirdag, Turkey

²Trakya University Faculty of Medicine, Pathology Department, Edirne, Turkey

³Trakya University Faculty of Medicine, Endocrinology Department, Edirne, Turkey

⁴Trakya University Faculty of Medicine, General Surgery Department, Edirne, Turkey

OBJECTIVES

It is well known that there is a strong relationship between chronic inflammation and tumorigenic process. The cytological diagnosis of follicular neoplasm (FN) carries a 20–30% risk of malignancy for thyroid nodules. In this study, we aimed to evaluate whether preoperative neutrophil to lymphocyte ratio (NLR) is a predictive factor for malignancy in thyroid nodules diagnosed as FN on cytology.

METHODS

A total of 139 patients with FN who were treated by surgery were enrolled. Preoperative demographic and laboratory findings, USG characteristics and final pathological results were assessed retrospectively.

Table 1

	n	%
Follicular adenoma	33	23,7
Follicular hyperplasia	25	18,0
Lymphocytic thyroiditis	14	10,1
Papillary thyroid carcinoma follicular variant	43	30,9
Papillary thyroid carcinoma classical variant	13	9,4
Papillary thyroid carcinoma diffuse sclerosing variant	2	1,4
Follicular thyroid carcinoma	4	2,8
Well-differentiated tumor with unknown malignancy potential	5	3,6
Total	139	100,00

Table 2

Pathology	%	NLR
Benign	55,5	2,12 1,05
Malign	44,5	1,98 0,92
		p=0,496

RESULTS

86,3% of the patients are females (n=120) and 13.7% are males (n=19). The overall malignancy rate of FN cytology was 44,5% (n=62) (Table1). There was no significant difference in NLR between the benign and malign groups (NLR=2,12±1,05 and 1,98±0,92 respectively and p=0,496)(Table 2). When USG features were evaluated, hypoechogenicity and irregular margins was found associated with malignancy risk (p=0.006).

CONCLUSIONS

Our study showed no association between NLR and malignancy risk in thyroid nodules diagnosed as FN on cytology.

The NLR is used as a readily available and inexpensive biomarker of inflammation. Many studies emphasized the increased NLR is associated with poor prognosis and adverse survival in various solid tumors including differentiated thyroid tumors. But we concluded NLR is not usefull in predicting malignancy risk of thyroid nodules diagnosed as FN on cytology.

References

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