



THE ASSOCIATION BETWEEN NLO AND MHR IN DIFFERENTIATED THYROID CANCER

Kenan Çadırcı¹, Faruk Yıldız¹, Havva Keskin², Hilal Kızıltunç³, Şenay Durmaz⁴, Ayşe Çarlıoğlu¹

¹Department of Internal Medicine, Training and Research Hospital, Erzurum, TURKEY

²Department of Internal Medicine, Göztepe Regional Training and Research Hospital, Istanbul, TURKEY

³Department of Radiation Oncology, ³Ataturk University Faculty of Medicine, Erzurum, TURKEY

⁴ Department of Internal Medicine, Kırıkkale University Faculty of Medicine, Kırıkkale, TURKEY

Introduction

Thyroid cancers form approximately % 90 of endocrine originated malign tumors and are classified according to histopathologic and clinical behaviors. Papillary and follicular cancers are classified as differentiated thyroid cancers. Recently, it has been revealed that Neutrophile/ lymphocyte ratio (NLO) and the ratio of monocyte/ lipoprotein cholesterol with high density (MHR) are the strong indicators of oxidative stress and systemic inflammation and also they are the strong indicators of mortality in coronary heart disease associated with coronary atherosclerosis, In present study, we aim to evaluate neutrophile/ lymphocyte ratio and the ratio of monocyte/ lipoprotein cholesterol with high density in patients with differentiated thyroid cancers(DTC).

Method

One hundred-eighty two 182 persons which 107 of them were diagnosed with differentiated thyroid cancer in our clinic and 75 of them who were age (45,9±14,7 vs. 48,2±7,7 years respectively) and body mass index (BMI) matched in healthy subjects (28,0±4,7 vs 27,2 ±3,3 kg/m², respectively) included in present study. All of lipid and hematologic parameters in DTC and the control group were evaluated after 12 hours fasting period. The values of NLO and MHR were calculated manually.

Results

It was detected a significant difference statically between the patients and the control group respectively in NLO mean (3,2±2,8 and 2,4±1,3 p=0,013), MHR ratio (0,038±0,05 and 0,1±0,07 p=0,000), PLR mean (146,0±75,7 and 11,9±11,6 p=0,000) and platelet (259,0±62,6 and 283,7±68,6 p=0,02) as the result of the study. In the correlation analysis, there was a positive correlation between PLR(platelet/ lymphocyte ratio) and NLO (r=0,5 p=0,000), and between respectively MHR and Neutrophile(r=0,4 p=0,000), lymphocyte (r=0,4 p=0,000) and thyroglobuline (r=0,4 p=0,000), and it was determined a negative correlation between NLO and respectively lymphocyte (r= -0,2 p=0,000) ,monocyte (r=-0,18 p=0,01), and between PLR and respectively Neutrophile (r=-0,7 p=0,000), lymphocyte (r=-0,7 p=0,000) and MHR(r=-0,2 p=0,003).

Discussion

It was observed that DTC increase systemic inflammation based on the data provided by this study. The negative correlation between factors such as PLR supporting systemic inflammation increase and another parameter such as MHR demonstrates that PLR effect can be protective from procoagulative effect. There has been needed further research to explain clearly the role of all these parameters in cases which have systemic inflammation and atherosclerosis together.