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Introduction

Acromegaly is a systematic disease characterized by excessive growth hormone and insulin-like growth factor-1(IGF-1) release. Coroner heart disease, arrhythmias, coronary failures are the main reasons of mortality in patients with acromegaly. Diabetes mellitus, impaired glucose tolerance and hyperinsulinism/insulin resistance frequently accompany by acromegaly. NLO (Neutrophile lymphocyte ratio) is demonstrated as a new simple indicator of systemic inflammation and it is also known that NLO is associated with progression of atherosclerosis in coronary artery and a risk factor in coroner artery disease also. In this study, we intend to search the association between hyperinsulinism as the result of excessive GH release and NLO ratio.

Methods

This study included 106 persons which 59 of them were patients with acromegaly and 47 of them who were healthy and no significantly different statistically in terms of age were in control group. The mean age of patients was 44,1±13,8 years and the mean age of control group was 38,8 ±15,4 years. There was no a significant difference statistically between them (p=0,06). Neutrophile and lymphocyte values of the patients and the control group were evaluated. Serum C-reactive protein (CRP) levels in the patients and the control group were recorded.

Results

As the result of the study, NLO mean in the patients was 2,1±1,0 and NLO mean in the control group was 1,5±0,6 and it was detected a statically significant difference (p=0,002). Additionally, the mean CRP levels in the patients was 3,5±3,3 mg/ dl and the CRP mean in the control group was 1,3±1,2 mg/ dl. It was found a significant difference statically between them (p=0,004). In addition, there were significant differences between the patients and control groups, respectively in terms of neutrophile (4,9±1,9.10³/µl and 3,9±1,2.10³/µl, p=0,01), fasting blood glucose (111,6±37,1 mg/ dl and 88,2±6,8 mg/ dl p=0,0001), fasting insulin levels (20,1±19,3 µU /ml, and 8,4±6,7 µU /ml, p=0,03), HOMA score (7,5±8,2 and 1,8±1,5 p=0,002). It were determined positive correlations between NLO and neutrophile count (r=0, 58, p=0,0001), between neutrophile count and thrombocyte count (r=0,26, p=0,007), between CRP and HOMA score (r=0,61, p=0,003) and between CRP and blood fasting glucose (r=0,71, p=0,0001) in the patients with acromegaly. There also was a negative correlation between NLO and lymphocyte count (r=-0, 45, p=0, 0001).

Discussion

Based on the outcomes provided by this study, it was found that excessive growth hormone release formed an inflammatory environment by effecting glucose mechanism and also increasing coroner atherosclerosis