The Relationship between Brain Natriuretic Peptide Serum Levels with Epicardial Fat Thickness in Patients with Acute Myocardial Infarction (AMI) and Comparison with Patients with Stable Angina

Abstract

Background: Adipose tissue has been shown to have different functions by releasing a variety of mediators called adipokines. Recent evidence suggests that Epicardial Fat Thickness (EFT) is associated with cardiovascular disease.

Aim: The aim of the present study was to investigate the relationship between serum levels of brain natriuretic peptide (BNP) and EFT in patients with acute myocardial infarction (AMI).

Methods and material: In a cross-sectional study, three groups were selected from 90 patients who were candidate for angiography, including 30 individuals as a control group with normal angiography but a history of chest pain, 30 patients with a diagnosis of stable angina pectoris (stable-AP), and 30 patients with a diagnosis of acute myocardial infarction (acute-MI). Demographic, biochemical, angiographic, and echocardiographic parameters were evaluated in all subjects.

Results: The results showed that serum BNP levels were higher in the groups with acute myocardial infarction and stable angina compared to the control group. Serum BNP levels were also significantly increased in the group with acute myocardial infarction compared with stable angina. On the other hand, a significant relationship was observed between serum BNP level and parameters such as CK-MB, Gensini score, and LVEF.

Conclusion: Although in this study, an increase in serum BNP levels was observed in patients with acute myocardial infarction and stable angina, but there was no significant relationship between serum BNP levels and EFT. For a more detailed examination, it is recommended to conduct additional studies with a larger sample size.

Keywords: BNP, Epicardial Fat Thickness, echocardiography, Acute Myocardial Infarction, Stable Angina, Angiography