

Abstract

INTRODUCTION:

Sepsis is one of the leading causes of mortality and morbidity around the world. Myocardial dysfunction is one of the important factors in the hemodynamic compromise seen in sepsis. B-type natriuretic peptide (BNP) and Mitral annular plane systolic excursion (MAPSE) are proposed to be useful markers in predicting sepsis induced myocardial dysfunction.

OBJECTIVES:

To signify role of BNP, MAPSE and their correlation in prediction of sepsis induced myocardial dysfunction.

METHODS:

40 patients diagnosed with sepsis or septic shock, in addition to ten healthy volunteers were included in the study in the period from March 2016 to March 2017 in critical care department of Cairo University and Alexandria University. All patients were subjected to BNP measurement and echocardiography measuring MAPSE on admission and after 48 hours with correlation of these measurements to sepsis induced cardiomyopathy.

RESULTS:

The studied patients were divided into two groups; Group I: patients who didn't develop myocardial dysfunction (n=16) and Group II: patients who developed myocardial dysfunction (n=24). There was statistically significant difference between both groups as regard BNP level and MAPSE both on admission and after 48 hours with P value (<0.001), with patients who developed sepsis induced cardiomyopathy exhibiting higher levels of BNP and lower MAPSE. In addition the current study demonstrated a strong negative correlation between MAPSE and BNP level on admission ($p=0.004$ & $r = -0.572$) and after 48 hours ($p=0.0030$ & $r = -0.444$) in patients who developed Myocardial dysfunction due to sepsis (group II).

CONCLUSIONS:

Both BNP level and MAPSE could significantly predict sepsis induced cardiomyopathy with a strong negative correlation found between BNP level and MAPSE both on admission and after 48 hours in prediction of sepsis induced myocardial dysfunction.

Key words:

Sepsis, Myocardial dysfunction, Brain natriuretic peptide, Mitral annular plane systolic excursion