International Journal of ChemTech Research
CODEN(USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555
Vol.11 No.06, pp57-61,2018

Mitral Annulus Plane Systolic Excursion (Mapse)From Echocardiography M-Mode as A Parameter for Left Ventricular Diastolic Function

Zulfan Efendi*[1], Zulfikri Mukhtar[1], Zainal Safri[1], Abdullah A. Siregar[1], Nizam Z. Akbar[1], Abdul H. Raynaldo[1]

[1]Department of Cardiology and Vascular Medicine, University of Sumatera Utara, Adam Malik Hospital, Medan, Indonesia

Abstract: Background: Assessment of left ventricular diastolic function is an important part of the routine echocardiographic examination to identify the underlying heart disease and determine the appropriate treatment. Mitral annular displacement toward the apex in systolic plays important role in pump function of the left ventricle. At the start of diastolic, the atrioventricular (AV) plane begins to ascend rapidly toward the atrium away from the apex. Atrial systole also contributes to ventricular filling by further displacing the AV plane in the same direction, and this notice as the last part of the diastolic phase of AV plane displacement and is associated with the P wave of an electrocardiogram.

Methode: A diagnostic test was performed to outpatients and inpatients undergoing elective echocardiography at Department of Cardiology in Haji Adam Malik Hospital Medan from October 2017 to February 2018 in accordance with inclusion and exclusion criteria. Mitral annulus plane systolic excursion (MAPSE)examination was performed using M-mode method on septal, lateral, inferior and lateral mitral annulus and then calculated the mean. The diastolic function is measured by assessing E/e'. The value of the tested points was tested using ROC curve statistic test and obtained sensitivity and specificity values. Further analysis to assessed the strength of the relationship with bivariate analysis.

Result: A total of 81 samples were found in this study, with 41 samples meeting inclusion and exclusion criteria. Mean MAPSE with cutoff value <13,625 had a sensitivity value of 62.5%, specificity 51.2%, positive predictive value of 58.3%, and a negative predictive value of 55.5% ($p < 0.05$). The result of bivariate analysis with Pearson method showed the coefficient value of 0.242 ($p < 0.05$).

Conclusion: MAPSE measurements had a weak positive correlation in determining left ventricular diastolic function so it may help to determine the left ventricular diastolic function along with available parameters.

Keywords: Mitral annular plane systolic excursion, MAPSE, mitral annular displacement,diastolic function, echocardiography, E/e'

Zulfan Efendi *et al* /International Journal of ChemTech Research, 2018,11(06): 57-61.

DOI=http://dx.doi.org/10.20902/IJCTR.2018.110608

*****