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## What is the association between left ventricular diastolic dysfunction and 6-minute walk test in hypertensive patients?

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Most hypertensive patients have some degree of left ventricular (LV) diastolic dysfunction. The 6-minute walk test (6MWT) provides objective data about the exercise tolerance. We aimed to find the association between the degree of LV diastolic dysfunction and the functional capacity assessed by 6MWT in hypertensive patients. The study included 200 asymptomatic hypertensive patients. All patients had undergone echocardiography for assessment of LV dimensions, systolic and diastolic dysfunction, and 6MWT. Patients were classified into two groups according to the presence or absence of LV diastolic dysfunction. Clinical and echocardiographic data were comparable between the two groups. Regarding 6MWT, at the end of the test, patients with diastolic dysfunction had significantly higher systolic ( $P = .0088$ ) and diastolic ( $P = .019$ ) blood pressure and higher Borg score for dyspnea ( $P < .00001$ ). The distant walked and percentage of the distance to predicted value were significantly lower in patients with diastolic dysfunction ( $P = .0322$  and  $.0002$ , respectively). Incidence of abnormal 6MWT was significantly higher in patients with diastolic dysfunction ( $P = .00041$ ). Compared to patients with grades I and II, patients with grade III diastolic dysfunction had significantly higher Borg score ( $P = .013$ ), lower distance walked ( $P = .039$ ), and lower percentage of distance to predicted value ( $P = .009$ ). Independent predictors for abnormal 6MWT were as follows:  $E/E' \geq 15$  ( $P = .0022$ ),  $E'/A' < 1$  ( $P = .0081$ ), and deceleration time of E-wave  $< 160$  ( $P = .013$ ), (Table 1). The presence of LV diastolic dysfunction in hypertensive patients has a bad effect on 6MWT. The degree of LV diastolic dysfunction was correlated with 6MWT results. It may be important to investigate LV diastolic function in asymptomatic hypertensive patients.

Logistic regression analysis for independent predictors of abnormal 6MWT

Variables	Odds Ratio (95% CI)	P
$E/E' \geq 15$	6.21 (5.09–7.33)	.0022
$E'/A' < 1$	5.86 (4.9–6.82)	.0081
$DT < 160$	5.23 (4.11–6.35)	.013
$E/A > 2$	3.85 (2.03–5.67)	.076
$E/A < 1$	2.74 (1.73–3.75)	.114

### Recent Publications

1. Mohamed M. Al-Daydamony and El-Sayed M. Farag (2016). CRUSADE bleeding score as a predictor of bleeding events in patients with acute coronary syndrome in Zagazig University Hospital. Indian Heart Journal 2016; 68 (5): 632-638.
2. El-Sayed M Farag, Mohammad M Al-Daydamony(2016). Symptom-to-balloon time and myocardial blush grade are predictors of left ventricular remodelling after successful primary percutaneous coronary intervention. Cardiovascular Journal of Africa, October, 2016 .DOI-10-5830-CVJA-2016-085.pdf.
3. Hisham Samir Roshdy, Magdy Mohammed Abdelsamie, Elsayed Mohammed Farag (2016) .Assessment of left ventricular electromechanical activation during right ventricular apical and outflow tract pacing. Egyptian Heart Journal . DOI: 10.1016/j.ehj.2016.04.001.h

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4. Elsayed M. Farag et al, (2015) .Novel findings in Breath-Holding Spells: A Cross sectional study .MEDICINE , volume 94 (28) ,ISSN: 0025-7974.
5. El Sayed Farag et al , (2015). Characteristic coronary flow pattern of left anterior descending stenosis by transthoracic echocardiography.Journal of american college of cardiology , Vol 66 , No. 15 , Suppl B , 2015.

## Biography

EL Sayed Farag, MD, FSCAI, is the professor of cardiology at Zagazig University in Egypt .He is an interventional cardiologist with over 15 years of experience. He is the secretary general of the Egyptian Association of Vascular biology and Atherosclerosis (EAVA). His main research interest is in the field of coronary artery disease and atherosclerosis. He is the director of the annual Zagazig Intensive Cardiac Cath Course (ZICC) for the cardiology fellows since 2011.

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