

PROGNOSTIC VALUE OF RIGHT VENTRICULAR DIASTOLIC DYSFUNCTION IN PATIENTS WITH INFERIOR ST-ELEVATED MYOCARDIAL INFARCTION

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Introduction

High risk groups of inferior STEMI patients are those with heart block, right ventricle infarction (RVI), cardiogenic shock and cardiac arrest. RVI occurs in approximately one third of patients with inferior STEMI, in about one half of those patients, it is of hemodynamic significance. RVI results in a decrease in the right ventricle (RV) compliance and an increase in filling pressures, consequently the RV stroke volume decreases. RV diastolic dysfunction serves as an early quantifiable marker of subclinical RV dysfunction and usually present before apparent systolic dysfunction, RV dilatation or RV hypertrophy. By reviewing the literature there is scant data on Evaluation of RV diastolic function.

Aim of the work

Evaluation of the prognostic value of RV diastolic function in patients with RV infarction.

Subjects and Methods

The study enrolled 60 patients who presented with inferior STEMI and RV infarction and underwent primary PCI at the Alexandria Main University Hospital and National Heart Institute from October 2019 to December 2020. Echocardiography study with analysis of PW doppler velocities (E vel, A vel, DT and E/A) and TDI velocities (e' , a' , E/e') was done. All enrolled patients had RCA occlusion proximal to RV branch.

Results

The comparison between MACE and Non-MACE groups showed that MACE were significantly higher in both women and diabetic patients. LVEF and RV FAC were significantly lower in MACE group with a P-value of 0.027 and 0.008 respectively.

TDI revealed that $E' \leq 6$ m/sec and $E/E' > 6$ were associated with increased MACE occurrence with a P-value of 0.015 and 0.048 respectively.

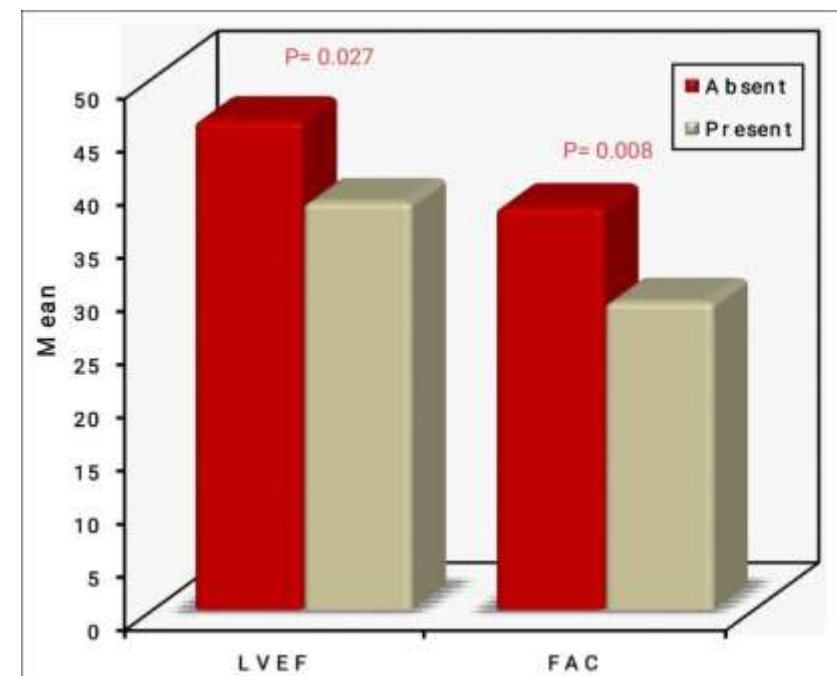


Figure: Comparison between non-MACE and MACE according to different parameters

Table: Relation between E' vel and E/E' with Follow up for MACE (n= 60)

	E' vel		E/E'	
	≤6 (n= 16)	>6 (n= 44)	≤6 (n= 25)	>6 (n= 35)
Follow up for MACE				
Absent	12(75%)	43(97.7%)	25(100%)	30(85.7%)
Present	4(25%)	1(2.3%)	0(0%)	5(14.3%)
c ² (p)	7.934*(0.015*)		3.896*(0.048*)	

χ^2 : Chi square test

p: p value for comparing between the studied groups

*: Statistically significant at $p \leq 0.05$

Conclusion

- There is still little information regarding RV diastolic dysfunction (DD) and its grades. Assessment of RV diastolic function by PW doppler is markedly dependent on loading conditions so Tissue Doppler in the evaluation of RV DD is inevitable. E' and E/E' should be routinely used during the evaluation of the right ventricle in cases of RV infarction. RVDD can be used for the estimation of prognosis in patients with Inferior STEMI and RV infarction.