

The effect of successful PCI on the change of Septal E/E' Ratio in the patient with CAD

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Background/Aims: Tissue doppler imaging such as E/E' ratio is a rapid, inexpensive and non-invasive method for the assessment of cardiac function. However, there are little studies for improvement of E/E' ratio after PCI for the target lesion in patient with significant coronary artery disease requiring to perform the PCI. **Methods:** This study is prospective registry design. Total consecutive 30 patients were enrolled. E/E' value was measured before and after PCI respectively. E/E' measurement was done 3 times, and the average value was selected. Atrial fibrillation, acute MI requiring emergent PCI, cardiogenic shock, and renal insufficiency were excluded. Paired t-test was used to evaluate the statistic significance. **Results:** Age was 65.73±12.04 year. Female, HTN, DM, hyperlipidemia, and current smoking were 40.3%, 50.0%, 26.7%, 66.7%, and 30.0%, respectively. Angina was 86.7% and acute MI 13.3%. C1VD was 30%, C2VD 40%, C3VD 30%. Patient undergoing PCI for C1VD was 73.3% and C2VD was 26.7%. The value of E/E' in pre-PCI was 12.82±4.59 (n=30) and in post-PCI 12.04±3.19 (n=30) and P-value by paired t-test was 0.295. In sub-group analysis according to the number of treated vessel, the value of E/E' in pre-PCI was 12.78±4.53 (n=22) and in post-PCI 12.14±3.27 (n=22) and P-value by Wilcoxon signed rank test was 0.485 in the one vessel treated group, whereas the value of E/E' in pre-PCI was 12.94±5.07 (n=8) and in post-PCI 11.77±3.15 (n=8) and P-value was 0.208 in the two vessel treated group. Although there was statistic significance, the difference of the decrease of E/E' value between pre-PCI and post-PCI in two vessel treated group was higher than that in one vessel treated group. This finding suggest that septal E/E' may become parameter reflecting improvement of LV diastolic function after PCI in multivessel PCI for the multivessel coronary disease **Conclusions:** In this study, there was no difference between E/E' value of pre-PCI and post-PCI in patients requiring PCI for angina or acute MI. The further study with the more sample size seem to be required to reach the more exact conclusion, although septal E/E' may not become parameter reflecting improvement of LV diastolic function after PCI in our study.

	Pre- PCI	Post -PCI	P-value
E/E'	12.82±4.59 (n=30)	12.04±3.19 (N=30)	0.295
Sub group			
C1VD(E/E')	12.78±4.53 (n=22)	12.14±3.27 (n=22)	0.485
C2VD(E/E')	12.94±5.07 (n=8)	11.77±3.15 (n=8)	0.208

Table 1. The value of E/E' in pre-PCI and post-PCI