**TCT-500**

## Association Between Microvascular Dysfunction and Diastolic Dysfunction in ST-Segment Elevation Myocardial Infarction With Preserved Ejection Fraction

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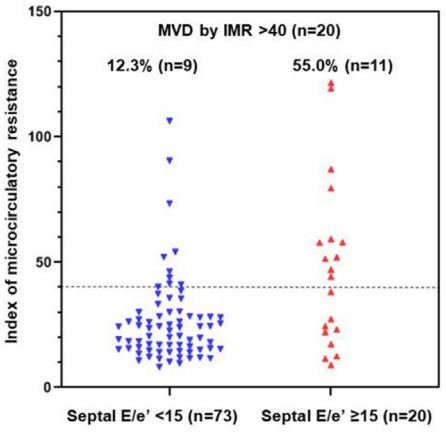
**BACKGROUND** Microvascular dysfunction (MVD) may have an influence on diastolic dysfunction in ST-segment elevation myocardial infarction (STEMI) with preserved ejection fraction.

**METHODS** We prospectively enrolled STEMI patients who underwent successful primary percutaneous coronary intervention (pPCI). MVD was assessed by index of microcirculatory resistance (IMR) after pPCI, and diastolic dysfunction with preserved ejection fraction was defined as septal E/e′ ≥15 and ejection fraction >40% by transthoracic echocardiography.

**RESULTS** Among 93 patients, 20 patients (21.5%) had a diastolic dysfunction at 30 days. Patients with 30-day diastolic dysfunction had a higher value of post-PCI IMR (48.1 ± 33.1 vs. 25.9 ± 17.0; $p < 0.001$). Receiver-operating curve analysis showed that IMR significantly discriminated the diastolic dysfunction (IMR >40; area under the curve: 0.713; 95% confidence interval [CI]: 0.562 to 0.863; $p = 0.004$). Prevalence of diastolic dysfunction was highly increased in patients with MVD (12.3% vs. 55.0%; OR: 8.70; $p < 0.001$) (Figure). After adjustment with clinical variables, MVD was strongly associated with diastolic dysfunction (HR: 9.43; 95% CI: 2.56 to 34.48; $p < 0.001$).

**Figure**




**CONCLUSION** This study is the first analysis to show the association between post-pPCI MVD by IMR >40 and 30-day diastolic dysfunction by E/e′ ≥15, which might have an influence on progression of heart failure in patients with successful revascularization of STEMI.

**CATEGORIES CORONARY:** Acute Myocardial Infarction