

## P1354

**Prognostic value of the left ventricular longitudinal and circumferential function in patients with takotsubo syndrome during the acute phase**

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**Background:** Takotsubo syndrome is generally considered a benign disease with a reversible condition; however, hemodynamic and electrical instability during the acute phase exposes patients to the risk of serious adverse in-hospital events. The purpose of this study was to investigate the prognostic value of the left ventricular longitudinal and circumferential function in patients with TTS during the acute phase.

**Methods:** We divided the 27 patients with TTS ( $77.4 \pm 10.2$  years old, 21 females) into two groups; the severe group (SG) of 9 patients (in-hospital death, mechanical assist devices such as IABP or ECMO, oozing rupture) and non-severe group (NSG) of 18 patients. The echocardiographic examination on admission, catheter hemodynamic assessment, and laboratory data, and ST-T change in electrocardiogram were compared between two groups.

**Results:** There were no differences in age, laboratory data, electrocardiogram findings between the two groups. The LVEF was lower in SG ( $35.3 \pm 6.1\%$  vs.  $45.9 \pm 13.5\%$ ,  $p = 0.03$ ). The index of Ballooning, the ratio of the systolic left ventricular diameter of ballooning segments to that of basal segments, was higher in SG ( $2.07 \pm 0.61\%$  vs.  $1.60 \pm 0.32\%$ ,  $p = 0.016$ ). The circumferential fractional shortening (CFS) of ballooning segments was lower in SG ( $4.6 \pm 3.2\%$  vs.  $18.2 \pm 8.2\%$ ,  $p = 0.00007$ ), CFS of basal segments was not different between the two groups, and the ratio of CFS of ballooning segments to CFS of basal segments (CFS imbalance index) was lower in SG ( $5.60 \pm 3.84$  vs.  $10.83 \pm 3.92$ ,  $p = 0.00003$ ). The left ventricular longitudinal fractional shortening was lower in SG ( $0.12 \pm 0.09$  vs.  $0.46 \pm 0.19$ ,  $p = 0.00003$ ). The absolute value of GLS was lower in SG ( $7.6 \pm 4.3\%$  vs.  $13.0 \pm 3.6\%$ ,  $p = 0.002$ ). In all three cases of in-hospital death, the CFS imbalance index was lower than 0.14.

**Conclusion:** In patients with TTS, left ventricular longitudinal and circumferential function could be related to serious adverse in-hospital events.