Echocardiographic Findings In Patients With Tako-Tsubo Cardiomyopathy And Acute Complications

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To determine clinical and echocardiographic correlates of acute major complications due to hemodynamic instability and in-hospital mortality in a large cohort of tako-tsubo cardiomyopathy (TTC) patients.

The study population consisted of 227 patients (mean age 66.2 ± 12.2 years; female 90.3%) enrolled in the Tako-tsubo Italian Network, undergoing transthoracic two-dimensional echocardiography on admission and at short-term follow-up (range 4–6 weeks). Patients with and without major complications (i.e., acute heart failure, cardiogenic shock, and death) were compared.

Major complications occurred in 59 patients (25.9%). Elderly patients aged ≥75 years (42.4 vs 23.8%, p = 0.011), left ventricular (LV) ejection fraction (35.1 ± 5.9 vs 38.4 ± 4.6%, p < 0.001), wall motion score index (1.95 ± 0.26 vs 1.78 ± 0.24, p < 0.001), E/e’ ratio (13.5 ± 4.3 vs 9.9 ± 3.3, p < 0.001), left ventricular outflow tract obstruction (23.7 vs 8.9%, p = 0.006), pulmonary artery systolic pressure (47.4 ± 12.3 vs 38.0 ± 9.2 mmHg, p < 0.001), right ventricular involvement (28.8 vs 9.5%, p < 0.001), and moderate to severe mitral regurgitation (49.1 vs 11.9%, p < 0.001) were significantly different between groups and were associated with adverse events. At multivariate analysis, LV ejection fraction (HR 0.91; 95%CI: 0.88-0.94; p < 0.001), E/e’ ratio (HR 1.15; 95% CI: 1.05-1.25; p=0.002) and age ≥75 years (HR 2.53; 95%CI: 1.032-6.23; p=0.043) were independent correlates of major complications.

Echocardiography early identifies TTC patients at high risk of hemodynamic instability and in-hospital mortality.