TAKOTSUBO CARDIOMYOPATHY: RISKS ASSOCIATED WITH SEVERE HEART FAILURE AND SYSTEMIC HYPOTENSION

Poster Contributions
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Background: Tako-tsubo cardiomyopathy (TTC) is an acute cardiac condition with unique left ventricular (LV) contraction profile and presentation similar to acute coronary syndrome. TTC is typically reversible with favorable prognosis. However, we have identified an important subset of TTC patients with particularly severe acute heart failure (HF) and malignant clinical course.

Methods: The Minneapolis Heart Institute series of 253 consecutive TTC patients was interrogated for those presenting with severe HF and hypotension characterized by systolic blood pressure < 100mmHg requiring treatment with intravenous vasopressors and/or intra-aortic balloon pump (IABP).

Results: Of the 253 patients, 44 (17%) had severe hypotensive HF. Of these 44 patients, 9 (20%) died despite aggressive treatment intervention (all women), representing the only TTC-related hospital deaths in the entire cohort. In comparison to other TTC patients (n=209), those with severe HF/hypotension were more commonly male (13% vs. 4%; p=0.02), with higher heart rate (103+28 vs. 93+22 beats/min; p=0.008), lower ejection fraction (25+9% vs. 33+10 %; p<0.001), and higher troponin (0.62 vs. 0.37 ng/ml; p=0.03). Management of severe HF patients included vasopressor drugs ie. catecholamines, milrinone, vasopressin. A single vasopressor drug was used in 17 patients (40%), >3 drugs in 11 (24%), and IABP in 11 (24%). Within 44 patients with severe HF, the 9 non-survivors, in comparison with the 35 survivors, were not significantly different with respect to age (72+15 vs. 66+15 years; p=0.23), female sex (100% vs. 86%; p=0.57), apical ballooning (78% vs. 54%; p=0.2), or triggering physical stressor (78% vs. 54%; p=0.2). Among 9 hospital deaths, TTC was directly responsible in 5 patients and a contributing factor in 4. Mechanisms of TTC related death included severe pulmonary congestion requiring prolonged mechanical ventilation, cardiogenic shock, and anoxic brain injury after cardiac arrest.

Conclusions: We have identified a unique high risk subgroup of TTC patients presenting with severe acute heart failure associated with systemic hypotension, and with substantial hospital mortality of 20% despite aggressive therapy.