Abstract: P759

Electrocardiographic predictors of adverse in-hospital outcomes in the Takotsubo syndrome

Authors:
S Jha, 1 Sahlgrenska University Hospital - Goteborg - Sweden,

Topic(s):
Acute Heart Failure – Diagnostic Methods

Citation:

Background: The takotsubo syndrome is a life-threatening acute cardiac condition. However, little is known about risk factors associated with worse outcomes in TS, and no high-risk electrocardiographic criteria have been defined for patients with TS. We sought to identify high-risk admission ECG findings among patients with TS.

Methods: Using the Swedish Angiography and Angioplasty Registry (SCAAR) we identified all cases of TS who were treated at our university hospital between 2008 and 2017. We reviewed all cases and included patients who met the revised Gothenburg diagnostic criteria. We conducted an in-depth review of all presenting electrocardiograms, using a pre-defined case report form (CRF), including the following variables: heart rate; rhythm; PR-interval; QRS axis; QTc-interval; T-wave inversion; presence of Q-wave; T-wave axis; and the magnitude of ST-segment deviation in each individual lead. The primary endpoint was the occurrence of in-hospital major adverse cardiac event (MACE), defined as the composite of death, ventricular tachycardia or fibrillation (VT/VF), atrioventricular block =2 or asystole > 10 seconds.

Results: We identified 161 patients with TS, of whom 151 (93.8%) were women. The mean age was 69 ± 13 years. MACE occurred in 19 patients (11.8%), and VT/VF occurred in 14 patients (8.7%). No clinical variables were significantly different between patients with and without MACE. Patients with MACE were less likely than those without MACE to have sinus rhythm (79.0% versus 95.8%, p=0.02) or T-wave inversion (15.8% versus 52.8%, p=0.02). T-wave inversion was less common among patients with than without VT/VF (14.3% versus 51.7%, p=0.01). After adjustment for age and sex T-wave inversion was independently associated with lower risk of MACE (Odds ratio 0.13, 95% confidence interval 0.04 to 0.48, p<0.001).

Conclusions: T-wave inversion is common in TS and is associated with lower risk of adverse events, driven by a lower risk of VT/VF.