Abstract: P862

Takotsubo syndrome: prognostic predictors

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Background Takotsubo syndrome (TTS) is characterized by an acute and usually transient, LV systolic dysfunction; however, prognostic predictors have not been identified yet. Purpose To evaluate the effectiveness of clinical and echocardiographic parameters collected in the acute phase of the disease in the prediction of mortality and cardiovascular events occurrence. Methods We enrolled 50 patients admitted in ICU. The diagnosis of TTS was obtained according to the current international diagnostic criteria. Patients underwent clinical examination, ECG, echocardiography, coronary angiography and blood sample for the dosage of markers of myocardial necrosis and BNP; moreover, clinical history collection was focused on the presence of stressful events and cardiovascular risk factors. Patients underwent FU every six months after the discharge through phone calls; a subgroup of 15 patients underwent clinical examination and echocardiography. Mortality, admission for heart failure, arrhythmias, myocardial infarction and TTS recurrence were considered major cardiovascular events (MACE). Average FU was 50 months (between 9 and 101 months). Results Cohort population included 48 women and one man (age 70.27 ± 10 years). Hypertension was reported in 69.4% of patients, diabetes in 16.3%, dyslipidemia in 26.5%. Symptoms at admission were chest pain (91.8%), dispnoea (4%) and syncope (4.2%). Emotional triggers were more frequent than physical ones (71.4% vs 26.5%). In 54.3% ECG showed ST segment elevation, in 28.57% negative T wave. Average EF at admission was 40 ± 11%. Two patients experienced cardiogenic shock and died, one patient had complete AV block. During the FU, two patients (5.9%) needed to be hospitalized for cardiovascular symptoms, one patient for TTS (2.7%) recurrence, 10 (27.7%) for heart failure, 7 (19.4%) for chest pain, 12 (33.3%) for arrhythmias (atrial fibrillation or atrial tachycardia) and 2 (5.5%) for myocardial infarction. Cox regression analysis identified the EF at admission as the only predictor of MACE [(HR = 0.961; (IC 0.936- 0.988), p=0.004)]. Kaplan-Meyer analysis showed that survival was less probable in patients with EF < 40% and the interval free from MACE was significantly shorter than patients with FE = 40% (p =0.028). Moreover, troponin peak value was the most important predictor of mortality [(HR =1.19; (IC 1.07- 1.3), p=0.001]. In the subgroup of patients who underwent echocardiography during FU, average EF changed from 48.5±9.8% at admission to 61±6.5% (p=0.004). Conclusions: EF at admission is the most powerful predictor of prognosis in TTS patients; patients with EF =40% had a longer survival and they reached a full recovery during FU. The peak of troponin value was the most powerful predictor of mortality instead.
Background Takotsubo syndrome (TTS) is characterized by an acute and usually transient, LV systolic dysfunction; however, prognostic predictors have not been identified yet. Purpose. To evaluate the effectiveness of clinical and echocardiographic parameters collected in the acute phase of the disease in the prediction of mortality and cardiovascular events occurrence. Methods We enrolled 50 patients admitted in ICU. The diagnosis of TTS was obtained according to the current international diagnostic criteria. Patients underwent clinical examination, ECG, echocardiography, coronary angiography and blood sample for the dosage of markers of myocardial necrosis and BNP; moreover, clinical history collection was focused on the presence of stressful events and cardiovascular risk factors. Patients underwent FU every six months after the discharge through phone calls; a subgroup of 15 patients underwent clinical examination and echocardiography. Mortality, admission for heart failure, arrhythmias, myocardial infarction and TTS recurrence were considered major cardiovascular events (MACE). Average FU was 50 months (between 9 and 101 months). Results Cohort population included 48 women and one man (age 70.27 ± 10 years). Hypertension was reported in 69.4% of patients, diabetes in 16.3%, dyslipidemia in 26.5%. Symptoms at admission were chest pain (91.8%), dispnoea (4%) and syncope (4.2%). Emotional triggers were more frequent than physical ones (71.4% vs 26.5%). In 54.3% ECG showed ST segment elevation, in 28.57% negative T wave. Average EF at admission was 40 ± 11%. Two patients experienced cardiogenic shock and died, one patient had complete AV block. During the FU, two patients (5.%%) needed to be hospitalized for cardiovascular symptoms, one patient for TTS (2.7%) recurrence, 10 (27.7%) for heart failure, 7 (19.4%) for chest pain, 12 (33.3%) for arrhythmias (atrial fibrillation or atrial tachycardia) and 2 (5.5%) for myocardial infarction. Cox regression analysis identified the EF at admission as the only predictor of MACE \[(HR = 0.961; (IC 0.936 – 0.988), p=0.004)\]. Kaplan-Meyer analysis showed that survival was less probable in patients with EF < 40% and the interval free from MACE was significantly shorter than patients with FE = 40% \(p =0.028\). Moreover, troponin peak value was the most important predictor of mortality \[(HR = 1.19; (IC 1.07 – 1.3), p=0.001]\]. In the subgroup of patients who underwent echocardiography during FU, average EF changed from 48.5±9.8% at admission to 61±6.5% \(p=0.004\). Conclusions: EF at admission is the most powerful predictor of prognosis in TTS patients; patients with EF = 40% had a longer survival and they reached a full recovery during FU. The peak of troponin value was the most powerful predictor of mortality instead.