Recurrent Stress Cardiomyopathy with Ventricular Fibrillation

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Introduction: Life-threatening ventricular arrhythmias (VA) have been reported in 3-10% of patients with stress cardiomyopathy (SC). The role of implantable cardioverter-defibrillators (ICD) in SC patients with recurrent VAs is uncertain. We describe a case of recurrent ventricular fibrillation (VF) in a patient with multiple episodes of recurrent SC who subsequently underwent an ICD for secondary prevention.

Methods: N/A

Result: A 55-year old woman with a history of diabetes mellitus presented with sudden onset chest pain hours following the death of her husband. Her baseline ECG showed 1 mm ST depression and T wave inversions in the anterolateral leads with a QTc interval of 510ms. Her troponin I level was 11.2 ng/ml. Echocardiography revealed an ejection fraction of 35% with apical akinesis and hyper-contractile basal segments. Coronary angiography revealed mild coronary artery disease in her right coronary artery. Eight hours following admission she had an aborted cardiac arrest with VF. Serial ECGs during the next 48 hours revealed lengthening of QTc interval to a maximum of 560ms. She did not have any subsequent VAs during her hospital admission. Ejection fraction normalised within 6 days and she was discharged with beta blockers and angiotensin-converting enzyme inhibitors. After 4 weeks, she presented again with aborted cardiac arrest (VF) and was successfully resuscitated in the emergency room. Echocardiography and coronary angiography confirmed a recurrence of SC. Baseline QTc interval was 530ms. Following a short hospital admission, her echocardiogram normalised. She was advised an ICD, but the patient deferred further management. She suffered from a third aborted cardiac arrest with VF after 5 months. Echocardiography confirmed a third episode of SC. Baseline QTc was 550ms. During this admission she elected to proceed with an implantation of an ICD. The patient was discharged with no further hospital events. She is currently doing well after 1 year with no subsequent device therapy and no further recurrence of SC.

Conclusion: This report highlights the risk of recurrent VF in patients with SC. Patients with SC and recurrent VAs may be considered for ICD implantation for secondary prevention.