**DEVICE IMPLANTATION CONUNDRUM: OPTIMAL MANAGEMENT OF A PATIENT WITH MIXED PHENOTYPE CHANNELOPATHY**

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Cardiac ion channelopathies are common causes of sudden death with normal cardiac anatomy. Of them, congenital long QT syndrome (LQTS) and Brugada syndrome (BrS) are two major entities.

A 48 year old woman presented with ventricular fibrillation cardiac arrest. Electrocardiogram, echocardiogram, coronary angiogram and cardiac MRI were unrevealing. Given ST elevation on telemetry precordial leads, BrS was suspected, but procainamide provocation test was negative. Subcutaneous implantable cardioverter defibrillator (S-ICD) was placed. Unfortunately, the patient had recurrent cardiac arrest four days later. The device interrogation revealed monomorphic ventricular tachycardia (mVT) and torsades de pointes, which remained undetected by S-ICD, and required external shocks. Subsequent twelve-lead EKG showed QTc of 532 msec. A dual-chamber ICD was implanted. No recurrent arrhythmias were reported at three-month follow up. Sustained mVT is common in BrS, but rare in LQTS, the trademark arrhythmia of which is torsades. In our patient, BrS is suggested by mVT and precordial ST elevation, but torsades and prolonged QTc point towards LQTS, raising the possibility of mixed phenotype channelopathy. Additionally, this case challenges the contemporary use of S-ICD as a mainstay of therapy for channelopathy in a young patient, subsequently demanding the use of conventional dual-chamber ICD to potentially pace terminate VT and prevent recurrent cardiac arrests. Despite the advances in knowledge of cardiac channelopathies and sophisticated ICDs, the clinical management is still a challenge. So, not only does the genetic enigma of channelopathies demand further research, but the optimal management of these patients warrants further study.