Long QT syndrome in a 36-year-old patient: a case report

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I**ntroduction**: Prolongation of QT interval increases the incidence of cardiac events and fatal arrhythmias. Long QT can be congenital or acquired. The prevalence of congenital long QT syndrome is 1:2,500 live births[1,2]. Annual risk of syncope, aborted cardiac arrest or sudden cardiac death is 1% to 5%, and in previously asymptomatic patients as low as 0,3%[3].

Case report: 36-year-old previously asymptomatic patient was admitted to our Clinic in July 2024 after a cardiorespiratory arrest with successful return of spontaneous circulation. He lost consciousness after a sudden awakening caused by a loud child's cry. The first rhythm was ventricular fibrillation, followed by asystole. The cardiopulmonary resuscitation lasted 6 minutes with total of two defibrillations. Upon admission he was hemodynamically stable with myotic and light-responsive pupils and was urgently analgosedated and intubated. CT scans revealed no signs of acute brain lesion or pulmonary thromboembolism. Echocardiography showed preserved left ventricular ejection fraction without regional wall motion abnormalities. Urgent coronary angiography was performed and no signs of acute coronary lesion was found. The postresuscitation electrocardiogram revealed sinus rhythm with normal QTc interval, while the following showed prolonged QTc interval (609ms). Intravenous propranolol has been started and the QTc shortening has been observed. The patient's level of consciousness was unchanged despite the cessation of analgosedation. From the 12th day, the gradual recovery of consciousness was observed and on the 20th day he was extubated. Repeat CT scan showed no sign of brain injury. Implantation of cardioverter defibrillator for secondary prevention of sudden cardiac death was performed. Genetic test results for channelopathies are still pending. The patient had been released from our Clinic 29 days after admission, fully conscious, dysarthric with mild left hand monoparesis, requiring assistance in daily activities.

Conclusion: The long QT syndrome is a relatively common cause of sudden cardiac death. Long QT syndrome with normal resting QTc can be unmasked by exercise or stress. In our patient, cardiac arrest was the first clinical presentation of the disease. Complete workup of other family members is essential.

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