Inpatient use of mobile continuous telemetry for COVID-19 patients treated with hydroxychloroquine and azithromycin

Coronavirus disease 2019 (COVID-19) is highly infectious and causes significant strains on health care systems. Routine testing within the hospital is weighed for needed value to minimize exposure to staff. The combination of hydroxychloroquine and azithromycin, both known to prolong the QT interval, was shown to lower the viral load, and early in the COVID-19 pandemic, the drugs were used to try to lower the morbidity and mortality of the infection. Gabriels et al (doi: https://doi.org/10.1016/j.hrcr.2020.03.017) shared a case of a 72-year-old previously healthy woman who had an out-of-hospital cardiac arrest. She was successfully resuscitated and upon admission had frequent short-coupled PVCs. An angiogram was normal. She developed VF refractory to magnesium, amiodarone, lidocaine, and esmolol and was placed on extracorporeal membrane oxygenation and therapeutic hypothermia. Remarkably, she remained in VF for 8 hours despite >20 defibrillation attempts. She was given 2 boluses of quinidine 300 mg intravenously; sinus rhythm was restored with a single shock; and she remained in sinus without PVCs during transmission to oral quinidine. Structural and genetic testing did not uncover known abnormalities. As quinidine reduces both IK1 and IKto, the drug may preferentially be effective in idiopathic VF felt to be related to phase 2 reentry and a reduction in the dispersion of repolarization. These cases highlight the need to make intravenous quinidine once again available for cardiac arrhythmias and severe cases of malaria.

Targeting an electrotonic effect with ablation: Management of a symptomatic long PR interval

An uncommon manifestation of dual atrioventricular (AV) nodal physiology is a symptomatic prolonged PR interval and symptoms of pseudo-pacemaker syndrome. Persistent conduction over the prolonged slow pathway is felt to be due to retrograde concealed conduction into the fast pathway. Laslett et al (doi: https://doi.org/10.1016/j.hrcr.2020.03.014) shared a case of a previously healthy 28-year-old man with fatigue, dyspnea, and palpitations with a resting PR interval of 460 ms. During exercise, his PR interval was at the upper limit of normal, a finding similar to the beat following occasional blocked premature atrial contractions. An electrophysiology study was performed due to the suspicion of dual AV nodal physiology. During a second application of cryothermal energy, the AH interval shortened from 300 to 168 ms. Additional cryothermal energy applications were performed with further shortening of the PR interval to 110 ms. A month later, the PR interval had prolonged to 250 ms, and on monitoring, 2 PR intervals were present; however, the symptoms of prior AV nodal physiology had improved greatly, so no additional treatment was pursued. This case shows the potential use of slow pathway modification/ablation in patients with a symptomatic long PR interval in which dual AV nodal physiology, or variants in physiology, is suspected.