VT Storm with 6 Morphologies of VT

Introduction: Recurrent episodes of ventricular tachycardia (VT) in patients with structural heart disease are associated with increased mortality and morbidity. Catheter ablation has emerged as a potential therapeutic option either for primary or secondary prevention of these arrhythmias. VT with multiple morphologies pose a challenge for ablation, most of the time targeting the most sustained or frequent first along with LAVA elimination can successfully terminates all VT.

Methods: N/A.

Result: A 65-year-old man with cardiogenic shock, anteroseptal STEMI with continuous VT history, two-vessel coronary CAD, acute kidney injury post supportive HD, community-acquired pneumonia, hypocalcemia, and occult hepatitis B, was referred to our centre for urgent VT ablation due to VT storm in the last 24 hours. The VT cannot be suppressed using two anti-arrhythmias (amiodarone and lidocaine) and sympathetic control by using general anesthesia. On the procedure, patient developed 6 VTs (Figure A), all of which were hemodynamically unstable and needed early cardioversion. We tried to map the most sustainable VT before his hemodynamic was compromised and earliest local activation was identified in 2 VTs (VT4 and VT5) and we ablated LAVA surrounding those areas. (Figure B) After the initial ablation, only PVC was observed with morphology the same with one of the VT. Another ablation targeting LAVA around this PVC render no more VT or PVC observed. (Figure C) Patient was free from VT 48 hours after ablation, but deceased due to SIRS from his low cardiac output condition.

Conclusion: In the vicinity of multiple VT, ablating the most sustain and perform LAVA elimination along the border zone can help to reduce all VT.