**Caught in the surge: A case report of electrical storm in patient with implantable cardioverter defibrillator**

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**Introduction**

Electrical storm (ES) is a rare life-threatening condition, marked by recurrent sustained ventricular arrhythmias (VA) of more than 3 episodes within 24 hours.1 This report explores a compelling case of ES in patient with implantable cardioverter defibrillator (ICD), shedding light on the intricacies of acute management in such event.

**Case Description**

A 55 years-old male with an implantable cardiac resynchronization therapy defibrillator (CRT-D) due to underlying hypertrophied obstructive cardiomyopathy and atrial fibrillation, has presented to the emergency department with multiple episodes of shocks by CRT-D, preceded by fever and productive cough for two days

Upon review, he was conscious and haemodynamically stable. The cardiac monitor showed multiple episodes of sustained ventricular tachycardia (VT) despite 53 episodes of appropriate shocks by CRT-D. Systemic examination revealed findings consistent with pneumonia. Resolution of ES was achieved upon administration of intravenous (IV) Amiodarone infusion, 300mg over 30 minutes, IV Midazolam 3mg and IV Fentanyl 50mcg.

He was transferred to a cardiology centre, and treated for pneumonia with supportive management. Device interrogation was carried out during his hospitalisation. He was discharged after one week with scheduled follow-up.

**Discussion**

ES is a complex phenomenon involving interactions between proarrhythmic triggers such as infections and autonomic imbalance in individual with predisposing cardiac abnormalities.1 Patient with an ICD often present following multiple distressing shocks, which itself triggers more VA due to sympathetic overdrives. Thus, in the event of ES, ICD should be temporarily deactivated to prevent vicious cycle of ICD detection and shocks. For patient with stable haemodynamic, termination of ES can be achieved with pharmacological approach by anti-arrhythmic agents. In addition, the use of beta blockers and sedatives may be considered to synergise termination of ES via autonomic suppression. Catheter ablation remains as the definitive modality for ES suppression.1

**Conclusion**

The case underscores the clinical management of ES in patient with ICD, which is an uncommon encounter in ED. Effective navigations on acute management of ES require understanding of the causative events and pathophysiology of the condition.

**Keywords**

electrical storm, implantable cardioverter defibrillator, ventricular arrhythmia.

**References**

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