

Stellate Ganglion Blockade for Treatment of Refractory Ventricular Tachycardia

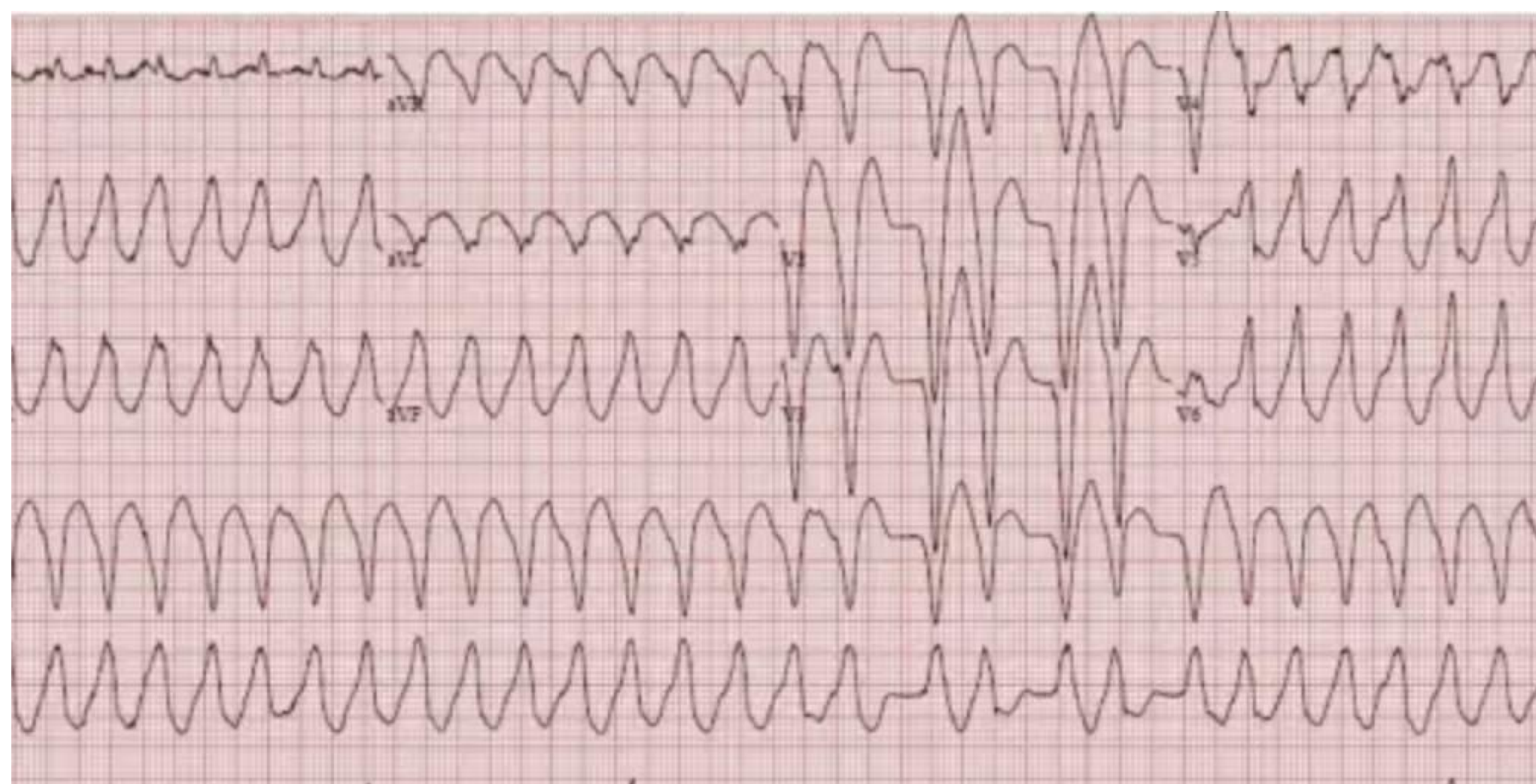
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Introduction

- Ventricular tachycardia (VT) is a life-threatening arrhythmia and a major contributor to sudden cardiac death in the United States.
- Some patients experience ventricular arrhythmias refractory to standard medical management with antiarrhythmics such as lidocaine, amiodarone and procainamide.
- Refractory VT is associated with high morbidity and mortality.
- Stellate ganglion blockade (SGB) is an emerging technique that has shown promise in managing refractory ventricular arrhythmias by modulating sympathetic tone.
- We present a case of refractory VT successfully managed with SGB.



Case Report

- 81-year-old male presented to the ED with chest pain.
- PMH:** CAD s/p 3v CABG and PCI, chronic atrial fibrillation s/p Watchman device placement, sick sinus syndrome s/p dual-chamber pacemaker implantation, CHF, and CKD.
- Initial evaluation** → non-ST elevation myocardial infarction (NSTEMI). Coronary angiography revealed no acute coronary occlusion. In the days following catheterization, the patient developed episodes of **sustained VT**.
- Electrocardiogram and history findings suggested flecainide toxicity in the setting of acute kidney injury.
- Cessation of flecainide, sodium bicarbonate, lipid emulsion anti-arrhythmics, deep sedation and paralysis provided only temporary suppression of arrhythmias, and the patient remained at high risk for VT storm.
- A left-sided stellate ganglion block was then performed using ultrasound guidance with a single-injection technique of 15 ml of 0.25% ropivacaine without complication.
- Following the block, the VT resolved and the patient had no further episodes.

Stellate Ganglion Block



Image 1. Ultrasound guided image of SGB.

Discussion

- Although the use of stellate ganglion blocks remains limited in routine clinical practice, early evidence suggests potential benefit, particularly in refractory cases of ventricular tachycardia.
- Clinicians should consider common side effects of SGB including Horner syndrome, hoarseness, or warmth/tingling to the face or arm.
- Our case shows the successful use of a SGB for refractory VT however more studies are needed to investigate use in clinical practice.