

Stellate Ganglion Blockade for Refractory Ventricular Electrical Storm in a Sedated and Anticoagulated Patient

INTRO

- Electrical Storm (ES) is a life-threatening condition often managed with antiarrhythmic drugs; however, some ventricular arrhythmias remain resistant to pharmacologic (e.g., beta-blockers, antiarrhythmics, sedation) and surgical (e.g., circulatory support devices, catheter ablation) treatments.
- Stellate Ganglion Blocks (SGB) have recently emerged as a therapeutic option to reduce ventricular ES events by modulating myocardial sympathetic tone.
- We describe a case where SGB was successfully used to manage refractory ventricular ES in the setting of giant cell myocarditis and rapid-onset cardiogenic shock.

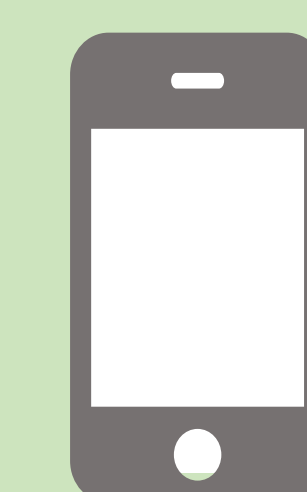
METHODS

- Written consent for the case report was obtained from the patient.

CASE REPORT

- 61-year-old male with PMH of hypertension, dilated ascending aorta, and recent admissions for rapidly progressive heart failure and complete heart block necessitating pacemaker placement.
- He presented to an outside hospital in cardiogenic shock with concerns for giant cell myocarditis. TTE revealed EF <20% while right heart catheterization demonstrated a cardiac index of 1.06 (Fick) and 0.6 (thermodilution).
- The patient required Impella CP support, inotropes, and vasopressors prior to transport.
- A multidisciplinary team initiated VA ECMO, optimized pacemaker settings, and started lidocaine and amiodarone infusions.
- Despite these interventions, the patient experienced >30 daily episodes of ventricular tachycardia (VT) requiring defibrillation.
- This led to increased sedation, antiarrhythmic therapy, and Impella 5.5 placement for left ventricular venting.

A single case study **reporting** successful stellate ganglion blockade for managing refractory ventricular ES in an intubated, sedated, anticoagulated patient with acute-onset cardiogenic shock.



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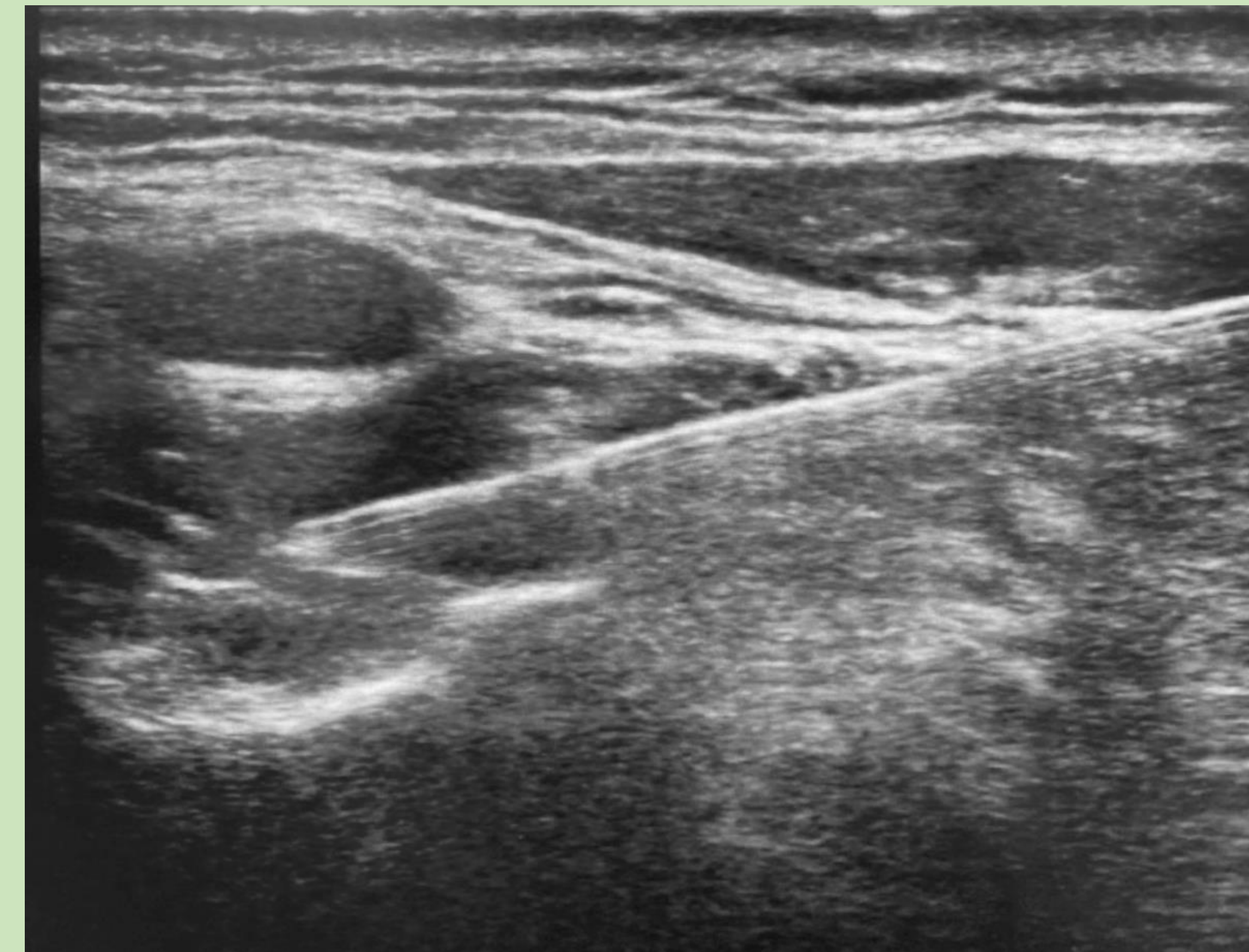


Figure 1 Demonstration of Stellate Ganglion Block performed for the patient.

CASE REPORT CONT...

- On day 4, bilateral SGBs were performed with 5cc of 0.5% Ropivacaine per side while the patient was intubated, sedated, and on a heparin drip.
- Shortly after SGBs were performed, VT episodes decreased significantly, allowing sedation to be weaned for neurologic evaluation – a necessity for heart transplant consideration.
- The patient achieved a 24-hour defibrillation-free period, underwent successful heart transplantation, and was eventually discharged.

DISCUSSION

- Refractory ES remains a challenging clinical scenario when traditional pharmacologic and surgical interventions fail.
- While formal guidelines are lacking, SGB has shown potential with studies demonstrating that a single SGB injection can suppress VT episodes for 24–72 hours and significantly reduce defibrillation events.
- Performing SGB in intubated, sedated, anticoagulated patients poses challenges, including delayed neurologic evaluation and risks of hemorrhage, epidural or subdural block, and local anesthetic systemic toxicity (LAST).
- Despite these considerations, published institutional protocols highlight the safety and efficacy of providing SGB in high-risk patients during a critical window to transition to definitive therapies.
- Further research is warranted to establish consensus guidelines and broaden the evidence base for this promising intervention.



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