ULTRASOUND GUIDED PERCUTANEOUS LEFT STELLATE GANGLION BLOCK FOR VENTRICULAR ARRHYTHMIA STORM IN ACUTE CORONARY SYNDROME FOLLOWING PERCUTANEOUS CORONARY INTERVENTION: A CASE SERIES

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INTRODUCTION

Electrical storm may not be responsive to anti-arrhythmic drug (AAD) therapy. Heightened sympathetic tone plays a critical role in the initiation and maintenance of ventricular arrhythmia (VA) storm. There is a paucity of data regarding efficacy of an easily performable bed-side ultrasound guided (USG) left stellate ganglion block (SGB) in acute coronary syndrome.

METHODS

AIMS AND OBJECTIVES: To study the efficacy of an USG left SGB in acute coronary syndrome related VA storm.

STUDY TYPE AND POPULATION: A prospective observational study of 11 patients with VA storm in the setting of acute coronary syndrome following percutaneous coronary intervention(PCI) .

EXCLUSION CRITERIA: Patients on ventilator and bradycardia dependent VA

STELLATE GANGLION BLOCK: All patients received at least one intravenous and one oral antiarrhythmic drug (AAD) and multiple DC shocks before the procedure.

Left SGB was performed under ultrasound guidance using a 7.5 MHz 9L-D broad-spectrum linear transducer probe (GE vivid S70 ultrasound machine). In the supine position with slightly extended neck the Chassaignaic tubercle was located. The site was anaesthetised avoiding the vessels by Doppler images with 5cc of 2% Lignocaine and 5cc of 0.5% Bupivacaine using a 7 cm long 22-gauge needle, directed towards the longus colli muscle medial to the common carotid artery and jugular vein. The procedure was repeated after 1 hours if storm persisted. The right SGB performed if VA persisted after two attempts of left SGB.

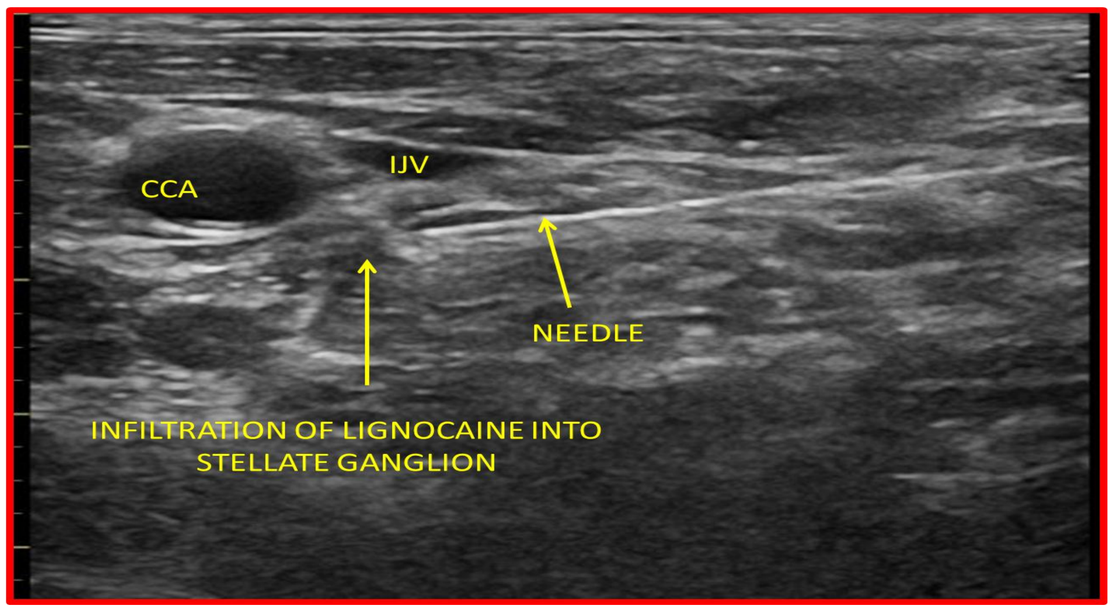

Figure A: Ultrasound guided left stellate ganglion block

RESULTS AND DISCUSSION

Acute ST elevation myocardial infarction (STEMI) in eight, NSTEMI in two and unstable angina in one patient. The mean age and LVEF were 57±14.8 years and 35±6.2% respectively. The onset VA storm following PCI was at mean 44±6 hours. The mean number of AAD and DC shocks given were 1.8 ±1.2 and 3±1 respectively. Three, two and one patients were free of VA storm with first left SGB, second left SGB and right SGB respectively. Two patients underwent VT ablation as a rescue therapy. Nine patients were implanted with ICD in the follow-up. Two patients died of refractory VA storm despite second attempt of SGB and one patient with heart-failure.

Complications of SGB	
Horner syndrome	11
Hematoma	1

CONCLUSION

Bed-side USG guided SGB is an effective and easily performable strategy to overcome VA storm in acute coronary syndrome.