Percutaneous left stellate ganglion block in VA ECMO patient with Refractory Ventricular Fibrillation

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Argomento: Caso clinico

Electrical storm (ES) is defined as the occurrence of at least three ventricular arrhythmias leading to defibrillation or antitachycardia pacing within 24 hours and it is usually accompanied by a sympathetic surge often resistant to antiarrhythmic drug therapy. Surgical sympathectomy in patients with structural and arrhythmogenic cardiomyopathies, has proven to be effective in interrupting refractory ventricular arrhythmias and ES. The temporary denervation of the heart through a percutaneous stellate ganglion block has therefore gained a great interest in the emergency setting because of its minimally invasive approach that can be easily performed bedside with either an US guided technique or a blind technique.

Objectives

We describe herein the case of 59 year old woman, with a history of hypertension and hyperthyroidism, who had a cardiac arrest with ventricular fibrillation as presentation rhythm. The patients was enrolled in eCPR protocol due to refractory VF. After the VA ECMO implantation, percutaneous left stellate ganglion block with lidocaine (100 mg) was performed, the anisocoria, as sign of sympathetic blockade, immediately appeared and the ROSC was achived at the subsequent DC shock. The ECG revealed anterior STEMI, therefore the patient undertook a coronary angiography and a drug eluting stent implantation in the left descending coronary. After 60 minutes the anisocoria regressed and refractory VF reoccurred; an additional sympathetic block with bupivacaine (50 mg) + lidocaine (100mg) led to definitive restoration of sinus rhythm.

Conclusions

Percutaneous left stellate ganglion block was determinant to successfully interrupt refractory VF in a patient on VA ECMO for cardiac arrest. The combined use of bupivacaine and lidocaine allowed a longer lasting control of rhythm compared to that of lidocaine alone.

Stellate Ganglion Block