

Preliminary results of percutaneous left stellate ganglion block in patients with electrical storm.

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Background. Electrical storm (ES) due to drug refractory ventricular arrhythmias such as ventricular fibrillation (VF) or ventricular tachycardia (VT) is a life threatening condition and still represents a major therapeutical challenge. Cardiac sympathetic innervation play a role in the genesis and in the maintenance of ventricular arrhythmias thus cardiac sympathetic denervation has been proposed for the prevention of ES. Percutaneous left stellate ganglion block (PSGB) has shown to be promising in anecdotal experiences of patients suffering of ES

Purpose: we sought to assess the feasibility and the effectiveness of PSGB in patients with drug- refractory ES.

Materials and methods. Patients with drug refractory ES occurred at the IRCCS Policlinico San Matteo in Pavia between November 2017 and August 2018 were enrolled. PSGB has been provided by the echo-guided injection of 10 ml of local anesthetic (lidocaine 200 mg or bupivacaine 50 mg) at the level of transverse process of C6.

Results. PSGB has been provided in four patients: a 47 years old male (pt 1) with ventricular arrhythmias due to a right ventricular arrhythmogenic dysplasia; a 89 years old female (pt 2) with a myocardial infarction complicated by cardiogenic shock and refractory ventricular fibrillation (VF); a 78 years old female (pt 3) for recurrent episodes of VF three days after an acute myocardial infarction and a 85 (?) years old man with recurrent VT as part of a cardiogenic shock complicating an ischemic heart disease (pt 4). Pt 1,3 and 4 were conscious at the moment of the injection and they received 50 mg of bupivacaine. For pt 2 the PSGB was provided with 200 mg of lidocaine during resuscitation for refractory VF after 7 ineffective shocks. All the patients after the PSGB have been free from arrhythmic relapses for 4 hours, fifteen minutes, 72 hours and 4 hours respectively. No complications occurred.

Conclusions. Our preliminary results, even if on a limited population, suggest the feasibility and possible efficacy of PSGB for patients with drug-refractory ES.