

Percutaneous stellate ganglion block and extracorporeal cardiopulmonary resuscitation: an effective and safe combination for refractory ventricular fibrillation

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Refractory ventricular fibrillation (VF) cardiac arrest is a challenge because of the scarcity of drugs and poor survival. Extracorporeal cardiopulmonary resuscitation (eCPR) and percutaneous stellate ganglion block (PSGB) can improve outcome by supporting circulation and by blocking the sympathetic innervation of the heart, respectively. However, little is known about their combination.

A 54-year-old woman suffered a cardiac arrest witnessed by rescuers of the emergency medical system (EMS) (Panel A). At hospital arrival, she was still in VF after 6 shocks and standard therapy. After 45 min of eCPR, VF was still present despite other 10 shocks. So, through a 22G needle 200 mg of Lidocaine were injected using the anatomical-based anterior approach at the level of C6. Anisocoria appeared in 2 min (Panel B), and the subsequent shock restored sinus rhythm stably. A primary coronary intervention on the proximal left anterior descendant artery was performed after which, 1 h after the PSGB, further six relapses of VF occurred despite the infusion of Lidocaine. Since anisocoria was diminishing, PSGB was repeated, using 100 mg of Lidocaine and 50 mg of Bupivacaine. Anisocoria reappeared and the subsequent shock was effective. Neither other arrhythmias nor complications related to PSGB occurred.

The full-length version of this report can be viewed at: <https://www.escardio.org/Education/E-Learning/Clinical-cases/Electrophysiology>.

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