

Refractory Ventricular Arrhythmia Induced by Aconite Intoxication and Its Treatment with Extracorporeal Cardiopulmonary Resuscitation

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Dear Editor:

A kind of herbs, aconite is known for cardiac toxicity [1,2]. Hemodynamic support using extracorporeal life support (ECLS) may be good method if failed conventional resuscitation. We report two experiences using ECLS in aconite intoxication.

A 47-year-old man, who had taken 20 herbal tablets containing aconite, visited the emergency room because of chest discomfort. An initial electrocardiography (ECG) showed persistent multifocal ventricular tachycardia (Figure 1). He repeatedly became pulseless and unconscious. All conventional resuscitation methods including antiarrhythmic medicines, chest compression, and electric cardioversion failed to maintain a stable condition. After 10 minutes of resuscitation, extracorporeal membrane oxygenation (ECMO) was inserted immediately. A 15-F arterial and 22-F venous catheter were percutaneously inserted into the right femoral vessels. The initial flow rate was set at 2 L/min. Although ventricular tachyarrhythmia occurred frequently on the first hospital day, soon after, the vital signs were stabilized. ECG showed a normal sinus rhythm after 33 hours of ECLS. The ECLS was removed on hospital day 2. He was discharged on hospital day 10.

Other case, a 31-year-old man, ingested an unknown number of tablets containing aconite and had difficulty in moving and chest discomfort, was referred to Samsung Medical Center. The initial ECG showed an irregular rhythm with a narrow QRS (Figure 2). Despite conventional resuscitation, the ventricular tachycardia was sustained. After a few minutes, a 15-F arterial and 22-F venous catheter were inserted. The patient's vital signs were stabilized and ECG rhythm regained normal sinus rhythm after 9 hours of ECLS support. The ECLS was removed on hospital day 2. He was discharged on hospital day 7.

Aconite induces refractory ventricular arrhythmia. The symptoms of poisoning appear 10 minutes to 3 hours after aconite is ingested [3,4]. When cardiogenic shock

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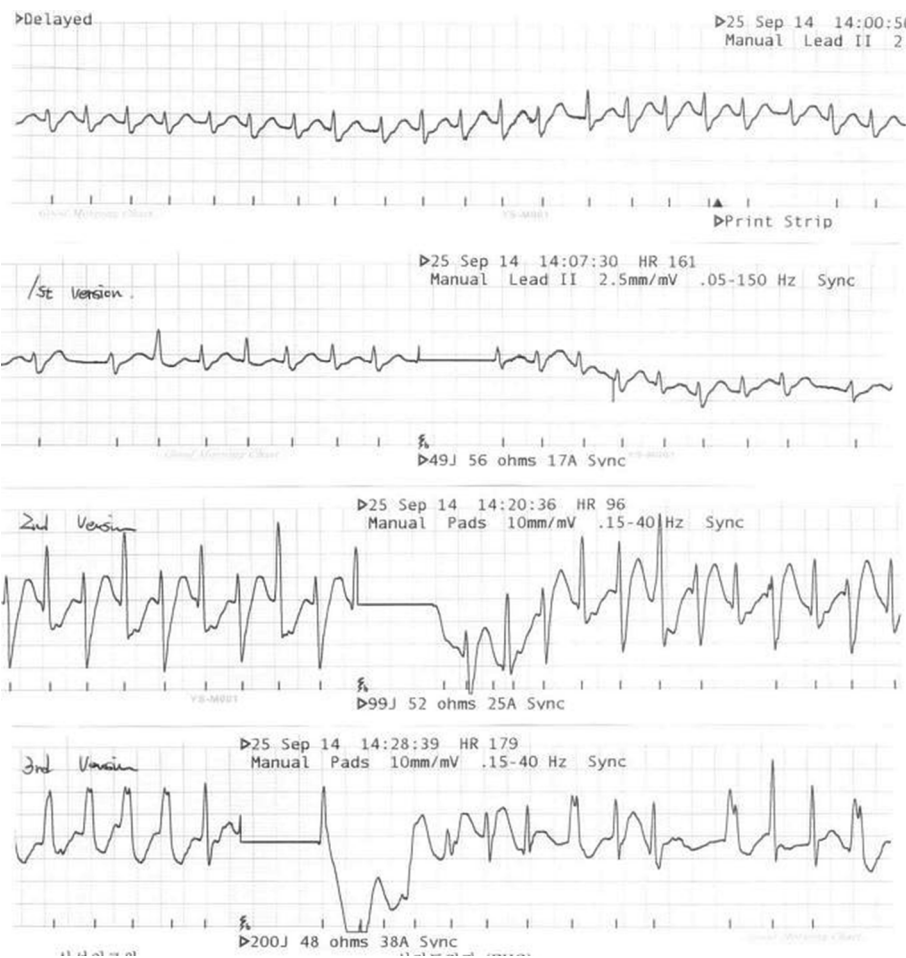


Figure 1. Initial and post-cardioversion electrocardiography: persistent multifocal ventricular tachycardia.

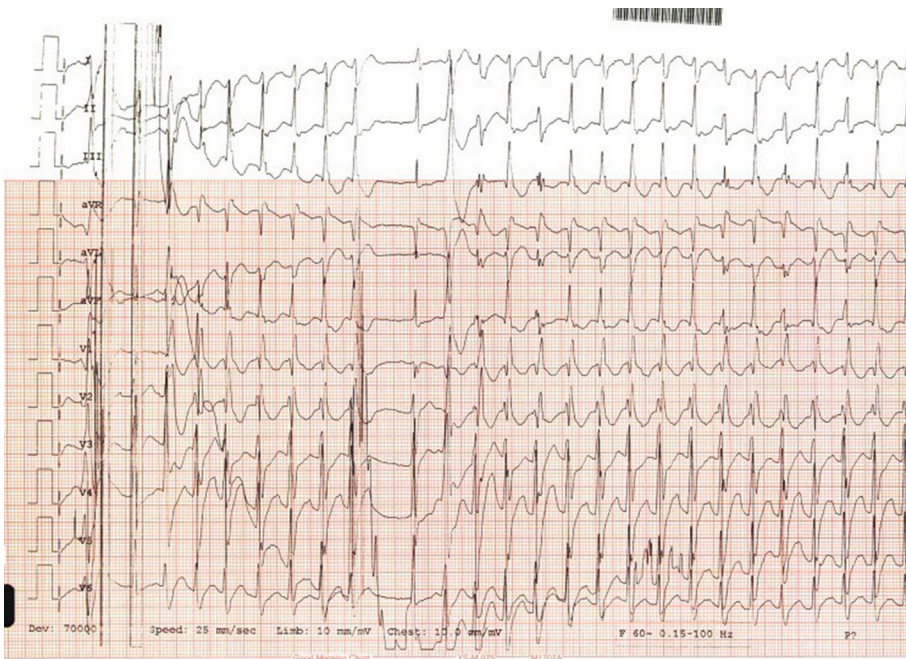


Figure 2. Electrocardiography upon arrival at the emergency room: persistent multifocal ventricular tachycardia with right bundle branch block pattern.

are refractory to medical treatment, it is most important to maintain blood pressure and tissue oxygenation by the use of a percutaneous cardiopulmonary bypass [5]. During the clearance of aconite from the body, ECMO may substitute heart function [6]. Our report shows that ECLS was an effective modality for repetitive life-threatening arrhythmia due to aconite poisoning. We believe that ECPR is a viable alternative to traditional cardiopulmonary resuscitation for patients with acute aconite intoxication.

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