

Sustained monomorphic ventricular tachycardia linked to the intake of ethanol and cannabis (be cool): about a case at the Hospital of the State University of Haiti

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Summary :

Sustained monomorphic ventricular tachycardia (SMVT) is an arrhythmia that most often occurs in a pathological heart. Its incidence increases with age. We report a case of sustained monomorphic ventricular tachycardia associated with dilated cardiomyopathy in a 22-year-old young man who consumed "be cool": a mixture of cannabis and ethanol. Echocardiography had objectified hypokinetic dilated cardiomyopathy with reduced ejection fraction. This case is the first case of ventricular tachycardia associated with dilated cardiomyopathy, in a context of taking the cannabis and ethanol cocktail encountered at the Hospital of the State University of Haiti.

Keywords: ventricular tachycardia, dilated cardiomyopathy, electrical cardioversion, cannabis

Introduction :

Myocardial infarction is an important cause of sustained monomorphic ventricular tachycardia, there are also several other etiologies reported in the literature, including dilated cardiomyopathy, certain medications and certain drugs¹. It is a potentially fatal arrhythmia that requires rapid treatment even if the patient presents with a stable initial clinical state².

Patient and observation:

A 22-year-old young man was admitted on referral to the Internal Medicine emergency department for palpitations and dyspnea from usual exertion that had been evolving for about two months. He used to consume a mixture of cannabis and ethanol. Physical examination revealed tachycardia at 210 per minute, polypnea at 32 cycles/min, blood pressure,

temperature and saturation within normal limits, he had turgor of the jugular veins. He had paraclinical assessments including a thyroid assessment, a complete blood count, an ionogram and a renal assessment within normal limits. An electrocardiogram showing an arrhythmia with a heart rate of 213, wide QRS complexes, a Jastrzebski score greater than 3. Echocardiography showed dilated cardiomyopathy with severe global hypokinesia and an ejection fraction lowered to 31%. The ventricular tachycardia was managed with intravenous amiodarone, which did not end the arrhythmia and the patient became unstable with low blood pressure and drowsiness, so he was shocked. The evolution was remarkable with a normalization of the cardiac chambers and the ejection fraction which rose to 68% in about six months. The patient presented again with SMVT 15 months after admission, at which time he had resumed drinking ethanol mixed with cannabis. Faced with the rapid normalization of the echocardiogram following the cessation of the ventricular tachycardia and the fact that the patient presented another episode of TVMS while taking cannabis and ethanol, we think that his ventricular tachycardia was induced by this mixture and that the dilated cardiomyopathy was a consequence of his arrhythmia. In addition, he never had new episode of ventricular tachycardia and the ejection fraction and cardiac chambers remained normal after permanently stopping "be cool".

Discussion :

Symptoms of sustained monomorphic ventricular tachycardia may be based on its duration, heart rate, or associated pathology¹. Its management varies according to hemodynamic status, comorbidities and underlying causes². Dilated cardiomyopathy can be complicated by ventricular tachycardia¹, just as ventricular tachycardia can induce dilated cardiomyopathy³. Regarding cannabis, some studies have suggested a possible association between cannabis use and atrial fibrillation as well as ventricular tachycardia⁴.

Conclusion :

The SMVT must seek its etiology in order to correct any potentially reversible anomalies. If cannabis, ethanol or other drugs that cause ventricular tachycardia are used, their discontinuation is necessary to increase the chances of a favorable outcome.

Conflicts of Interest: The authors declare no conflicts of interest.

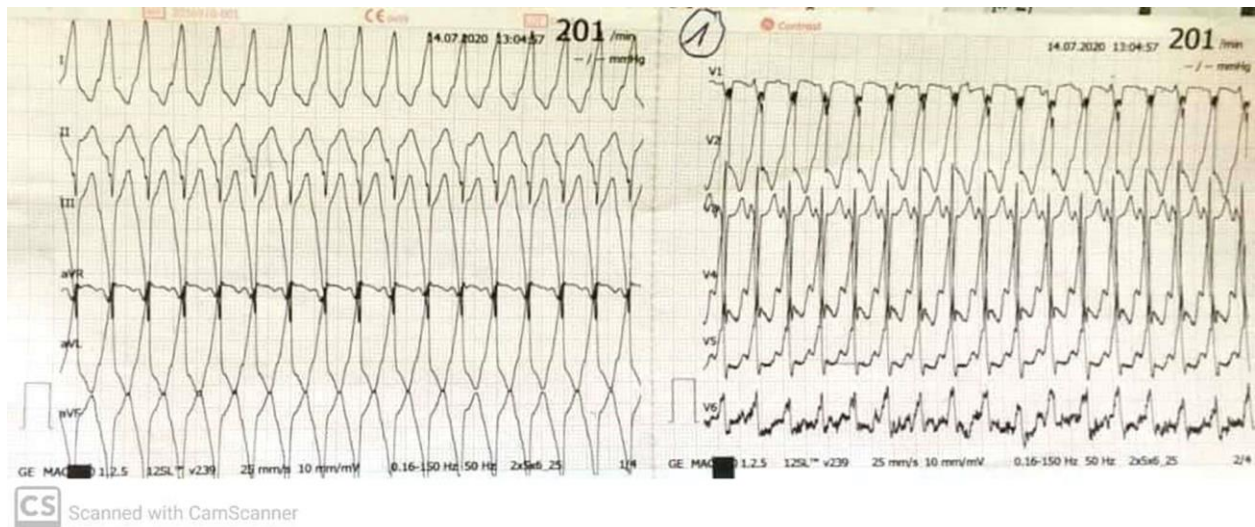


Figure 1: Electrocardiogram of the patient on arrival at the emergency room

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