

Letter to the Editor

Electrocardiographic findings after acute absinthe intoxication

Juan Benezet-Mazuecos^{a,*}, Adolfo de la Fuente^b

^a Cardiology Department, Fundación Jiménez Díaz, Universidad Autónoma de Madrid, Madrid, Spain

^b Emergency Department Fundación Jiménez Díaz, Universidad Autónoma de Madrid, Madrid, Spain

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Abstract

A 29-year-old comatose patient was brought to Emergency Department with severe alcohol intoxication. No risk factors or cardiac abnormalities were documented. The analysis was negative for other drugs. Plasma electrolyte and cardiac enzymes were normal. The electrocardiogram showed Mobitz type-I atrioventricular block that developed to a rapid junctional rhythm. The patient was stabilized and recovered completely, electrocardiogram then showed sinus rhythm. He admitted important absinthe consumption. Although tachyarrhythmias are frequently developed in acute alcohol intoxication, bradyarrhythmias are exceptional in this context. We present a Wenckebach-type atrioventricular-block in severe alcohol intoxication with absinthe that developed to a rapid junctional rhythm, never described before.

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1. Case

We report the case of a 29-year-old comatose patient brought to our Emergency Department with severe acute alcohol intoxication and hypotension. No cardiovascular risk factors or cardiac abnormalities were documented. On admission, venous ethanol levels showed 198 mg/dL and the analysis were negative for other drugs. Plasma electrolyte levels and cardiac enzymes were normal, although transient mild metabolic acidosis was noted. Core body temperature was 36.5 °C. The electrocardiogram showed Mobitz type I atrioventricular (AV) block (Fig. 1) that a few minutes later developed to a rapid junctional rhythm (Fig. 2). The patient was stabilized with medical treatment and recovery was complete some hours later, the electrocardiogram then showed sinus rhythm. He admitted important absinthe consumption. After medical treatment with volume expansion the patient recovered sinus rhythm and was discharged.

Acute intoxication with ethyl alcohol can produce disturbances of both mechanical function and electrophysiologic properties of the heart. Alcohol abuse has long been accused to cause paroxysmal atrial tachyarrhythmias. Atrial fibrillation is the most common atrial arrhythmia attributed to acute alcoholic consumption. Atrial flutter has occasionally been noted associated with higher concentration of alcohol [1]. No signs of arrhythmogenic cardiac disease have been detected to explain the tendency toward atrial fibrillation, and an exaggerated adrenergic activity has been suggested as the responsible mechanism [2]. Absinthe is a clear, green liqueur of 74% alcohol used in artistic circles and considered the inspiring muse of many famous artists (van Gogh, Toulouse-Lautrec, Oscar Wilde, etc.) because it was reputed to stimulate creativity and possess exciting, aphrodisiacal and healing properties. In the past, absinthe enjoyed enormous popularity that led to a real abuse causing its prohibition in many countries. Nowadays, it is again enjoying a new period of popularity [3]. Absinthe was distilled from an alcoholic steep of herbs (wormwood, *Artemisia absinthium*, anise and fennel), the thujone is the constituent responsible for the activity and toxic effects: excitation, acute auditory and visual hallucinations, convulsions that mimic epilepsy, and even

* Corresponding author. Servicio de Cardiología, Fundación Jiménez Díaz, Avenida Reyes Católicos, 2, 28040 Madrid, Spain. Tel.: +3491 5441636; fax: +3491 5499402.

E-mail address: jbenezet@yahoo.es (J. Benezet-Mazuecos).

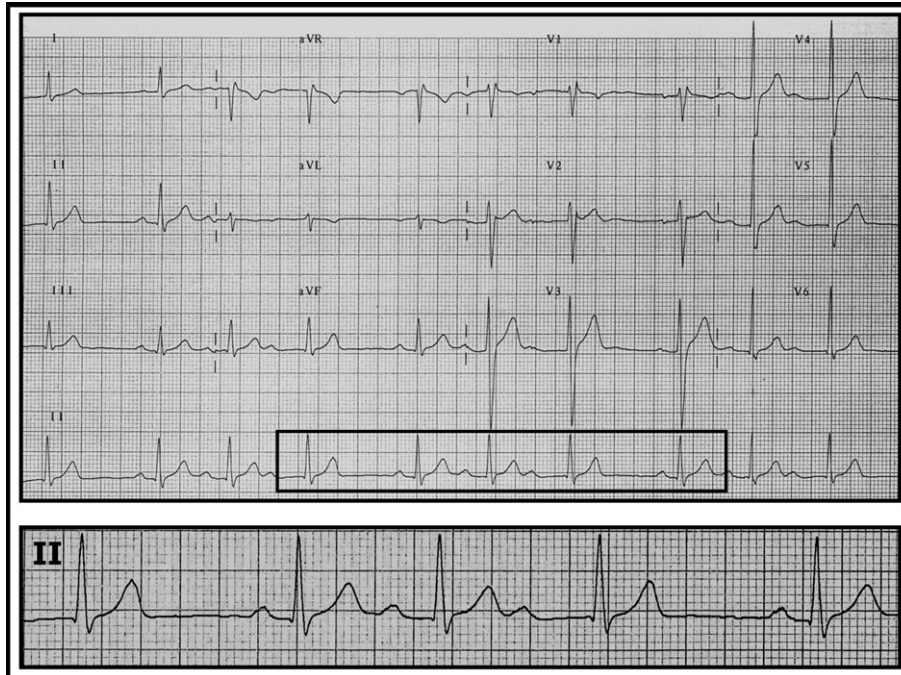


Fig. 1. 12-leads electrocardiogram performed on admission at Emergency Department showing sinus rhythm with Mobitz type-1 AV block. Detail on lead II showing the Wenckebach-type AV block. Although tachyarrhythmias are frequently developed in acute alcohol intoxication, bradyarrhythmias are exceptional in this context.

permanent brain damage. No peculiar cardiovascular effects have been described apart of those referred to alcohol intoxication [4,5].

Paroxysmal arrhythmias are commonly encountered after severe alcohol intake, the most of them are tachyarrhythmias and exceptionally bradyarrhythmias has been de-

scribed [6]. In our case, we show a Wenckebach-type atrioventricular block in severe alcohol intoxication with absinthe that developed to a rapid junctional rhythm, never described before. Although the responsible mechanism of these effects in not well understood, it seems that our patient could present a vagal syndrome in the context of severe

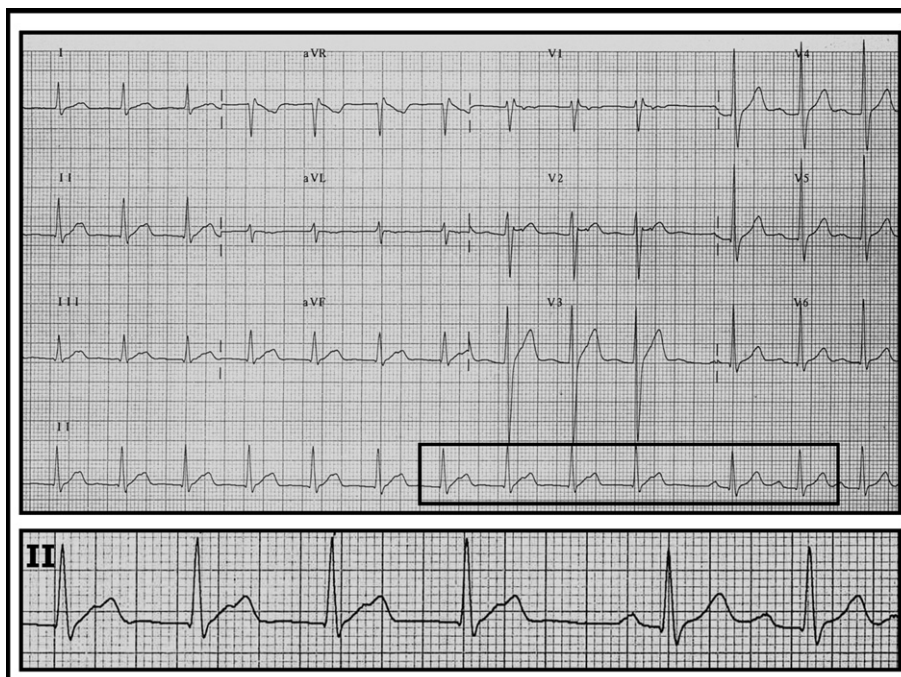


Fig. 2. 12-leads electrocardiogram performed during treatment period with volume expansion showing a rapid junctional rhythm that spontaneously turned to sinus rhythm. Detail on lead II of the moment in which the patient turned to sinus rhythm recovering the normal cardiac electric conduction.

acute alcohol intoxication, with bradyarrhythmia and hypotension, followed by an adrenergic reaction that developed a rapid junctional rhythm. In the past, absinthe enjoyed enormous popularity because of its stimulating and aphrodisiacal reputation. Nowadays, the problem is that this old drug, long time forgotten of our minds, is again enjoying a new period of popularity among young people; and we should know the serious consequences that it can have in our patients, including those that affect the electrophysiologic properties of the heart.

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