

Ventricular Tachycardia Associated with Sibutramine Treatment

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SUMMARY

The prevalence of obesity is increasing in the last decades. The importance of the body image makes people use adjuvants to diet to reduce weight more quickly and effectively. Sibutramine is a drug that inhibits serotonin and norepinephrine reuptake. The stimulation of the sympathetic nervous system produces adverse effects on the cardiovascular system that have been reported by diverse monitoring agencies.

We describe the case of a woman who presented monomorphic ventricular tachycardia after initiating treatment with sibutramine. The complementary tests showed no evidence of structural heart disease and the electrophysiology study did not induce VT. The patient did not present arrhythmias after the drug was discontinued.

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Key words >

Sibutramine - Ventricular Tachycardia - Obesity

Abbreviations >

ECG: Electrocardiogram
BMI: Body mass index

VT: Ventricular tachycardia

CASE REPORT

A 38 year-old woman, sedentary, obese, body mass index (BMI) 30 and ex-smoker, with no cardiovascular antecedents. With the purpose of losing weight she started a diet and 10 mg/day of sibutramine under medical indication. On the fifth day of starting the treatment she presented episodes of palpitations with dizziness and sweating so she consulted a cardiologist who asked for a Holter where non-sustained monomorphic ventricular tachycardia (VT) of 13 beats was observed (Figure 1), as consequence she was referred for hospitalization. After her admission, sibutramine was suspended. The physical examination, laboratory analysis and the admission ECG, with a QTc of 360msec (Figure 2), were normal. An electrocardiogram was performed and all the parameters were normal. Once fulfilled four half-lives of the drug (72 hours) an electrophysiological study was performed that did not induce VT and an exercise stress echo that did not show motility disorders and arrhythmia. The patient progressed with no complications so she was discharged with the contraindication of using sibutramine and similar drugs. During the follow-up she did not present arrhythmia.

DISCUSSION

The prevalence of overweight and obesity increased in the last decades, up to the point of becoming a priority public health problem. (1) Basically, the first step in obesity treatment is making changes in lifestyle, for example, diet, stipulated physical exercise and behavioural conduct. (2) However, since several years there are some drugs that can be used when conventional measures do not work. Sibutramine effectiveness in weight loss has been demonstrated in several double-blind randomized studies. (3) It is indicated in patients with BMI > 30 or > 27 if there are other risk factors, with a recommended dose of 10 to 15 mg/day. (4) It inhibits the reuptake of norepinephrine and serotonin, and in a lesser extent, dopamine. At central level, the increase in serotonin concentration activates receptors in the center of appetite, which produces an anorexigenic effect, while the inhibition of the reuptake of noradrenaline could produce a thermogenic effect by the activation of β 3-adrenergic receptors that could increase weight reduction. (5)

Its action at central level is associated with adverse effects as insomnia, dry mouth, nausea and cephalaea. (6) At cardiovascular level it has been associated with an

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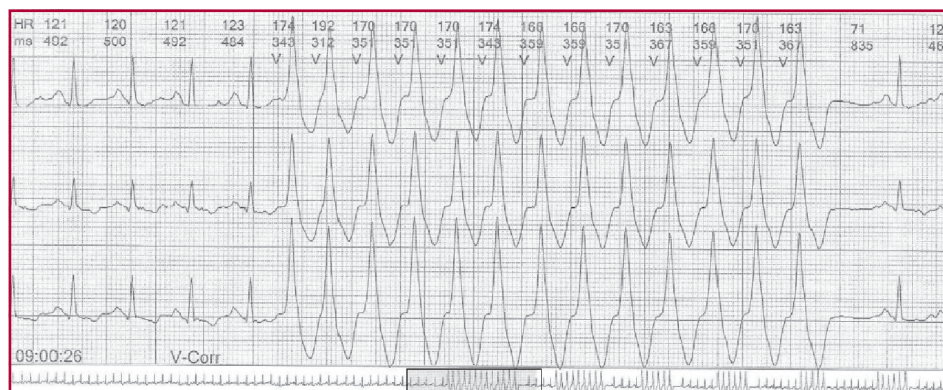


Fig. 1. 3-channel Holter. See the monomorphic ventricular tachycardia (13 beats) preceded by beats in sinus rhythm with no QT prolongation.

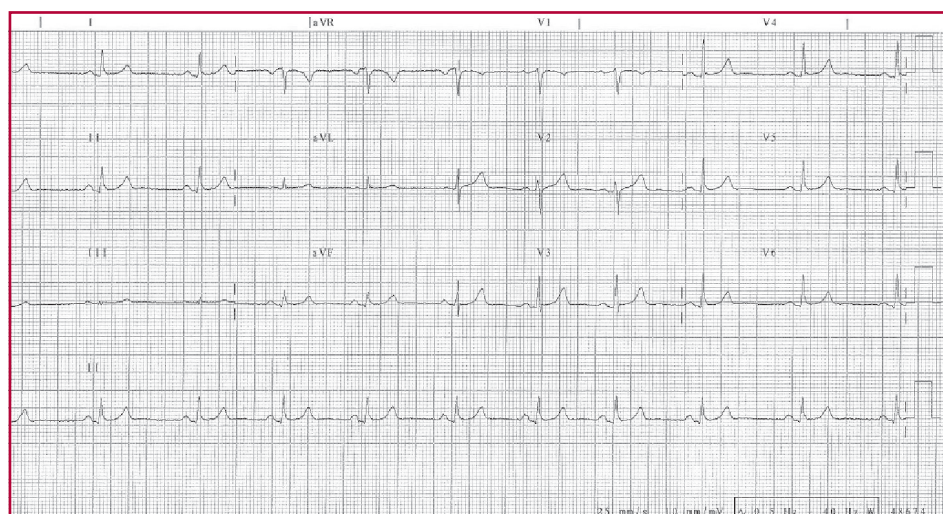


Fig. 2. Simultaneous basal 12-lead ECG. The rhythm is sinus with preserved atrioventricular conduction and a QT interval of 360 msec.

increase in blood pressure and pulse, supraventricular and ventricular tachyarrhythmia, as well as cases of angina pectoris (6-8) and acute myocardial infarction. (9) These effects would be mediated, on one side, by the increase produced by the adrenergic tone (6) and, on the other side, cases of arrhythmia with long QT interval have been communicated, whose mechanism is the prolongation of repolarisation through sibutramine inhibition of a subgroup of potassium channels (IKS, IKR). (10) In the presented case, no evidence of QT prolongation in the admission ECG and in the Holter has been observed so it would not be the responsible mechanism for this arrhythmia.

As a consequence, its use was not recommended in patients with coronary disease, congestive heart failure, arrhythmia, occlusive peripheral arterial disease, and cerebrovascular disease (7, 8) and also the indication of monitoring the appearance of any of the possible adverse effects in the population who used it was established. In October, 2010, the Food and Drug Administration (FDA) withdrew this drug and the same attitude was adopted by the National Administration of Drugs, Foods and Medical Devices (ANMAT).

The presence of an ECG with no alterations, the absence of palpitations antecedents, an

electrophysiological study with no induction of arrhythmia and the coincidence between the beginning of the treatment with sibutramine and the symptoms with the later manifestation of VT lead us to conclude that the use of this drug could have been the factor that triggered the arrhythmia in our patient.

This is an example of the possible interaction at cardiovascular level of non cardiac drugs that may have serious consequences even in a patient with no cardiopathy. Knowing the action of this type of drugs is a new challenge for the cardiologist.

RESUMEN

Taquicardia ventricular asociada con la utilización de sibutramina

La prevalencia de obesidad se encuentra en aumento en las últimas décadas y la importancia que se le da a la imagen corporal lleva a que se utilicen adyuvantes a la dietoterapia para lograr descensos de peso más rápidos y efectivos. Dentro de estas medidas se incluye la sibutramina, un medicamento cuyo mecanismo de acción consiste en la inhibición de la recaptación de serotonina y noradrenalina. Es a través de su acción simpaticomimética que entre sus reacciones adversas presenta efectos a nivel cardiovascular que han llevado a que se recibieran alertas de diversos organismos de control. En esta presentación se describe el caso de una mujer que

sufrió episodios de taquicardia ventricular monomorfa luego de iniciar un tratamiento con sibutramina. En el examen con métodos complementarios no se evidenció patología estructural, el estudio electrofisiológico no indujo TV y luego de suspendida la droga no volvió a presentar fenómenos arrítmicos.

Palabras clave > Sibutramina - Taquicardia ventricular - Obesidad

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