CASE REPORT

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.

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 β3-adrenergic receptors that could increase weight reduction. (5)

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

Key words >
Sibutramine - Ventricular Tachycardia - Obesity

Abbreviations >
ECG: Electrocardiogram
BMI: Body mass index
VT: Ventricular tachycardia

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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

BIBLIOGRAPHY