“Fat burners”, when the flames reach the mood: Mania episode induced by dietary supplements

A.Trabsa[1,2], A. Palma[1,2], L. González[1], V. Pérez[1,2]

1. Institut de Neuropsiquiatria i Addiccions, Parc de Salut Mar, Barcelona, Spain.
2. Institut Hospital del Mar d'Investigacions Mèdiques-IMIM, Parc de Salut Mar, Barcelona, Spain

P.2.h.016

Introduction

“Fat burners” are dietary supplements used to lose weight and improve athletic performance.
In the literature, these substances have not been related to psychiatric symptoms so far. [1] However, it is widely recognised, that some of the most dangerous supplements currently sold are those that contain synthetic stimulants lacking evidence of safety in humans.

Objective

A case of mania episode associated with the use of “fat burners” in a patient with no previous switch into mania, is reported.

Materials and methods

A 57-years old women got hospitalized in the Acute Unit via emergency service presenting manic-like episode (table 1).

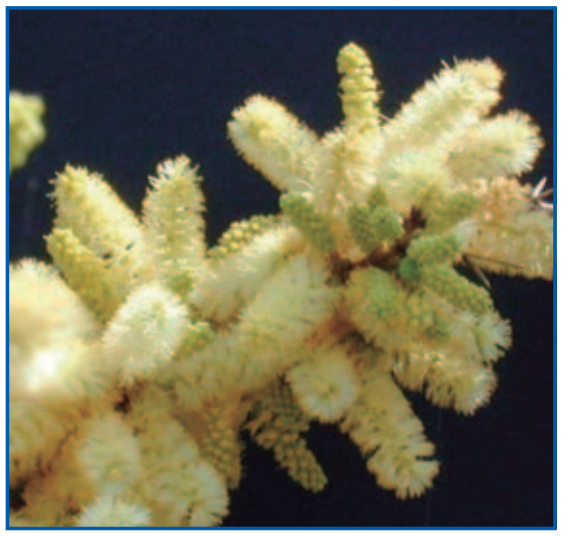
Table 1: Symptoms presented by the patient in abuse context of “fat-burners”.

- Hyper-irritability
- Unusual hostility
- Hyperactivity
- Compulsive shopping
- Decreased need for sleep
- Pressured speech
- Paranoid delusions

Results

The patient had 35-years of recurrent depression history with no previous switches into mania even after use of high antidepressant dosages. Tendency towards preoccupation for weight and abuse of different “fat-burners” was reported by the family. No abuse of other psychoactive substances, was described. The list of fat burner labels consumed by the patient was checked finding '*Acacia rigidula*' (fig. 1) in the composition. Onset age, absence of hypomania or mania in the psychiatric patient history, absence of bipolar disorder in the family story and abuse context of “fat burners” lead this last one as the most likely triggering cause of the symptoms.

Figure 1: Acacia Rigidula



Discussion

Dietary supplements have been found to contain analogues of amphetamine, methamphetamine and 1,3-dimethylamylamine (DMAA). The only known source of these stimulants is chemical synthesis, however, they are often sold as if they were botanical extracts. The label “*Acacia rigidula*” is used as a cover for introducing a brand new synthetic drug similar to amphetamine, with amount of stimulant substances that don’t match with the natural abundance in the plant materials. [1] Pharmacologic evidence supports the notion that manipulating the dopaminergic system can mimic the symptoms of bipolar disorder. [2] Mood destabilization with induction of hypomaniac and maniac switches, mixed states, and rapid cycling are the concerns most frequently reported with the misuse and abuse of stimulants. [3] Other studies reported Increase in subjective measures of thought processing speed and irritability in healthy volunteers who received 25-mg oral dextroamphetamine. [2]

Conclusions

- To our knowledge, this is the first case reported of psychiatric symptoms induced by “fat burners”.
- Different studies reported the presences of stimulant substances as amphetamines in these dietary supplements labelled as containing “**Acacia rigidula**”. Amphetamines has been shown to trigger euphoria in healthy volunteers.
- It should be borne in mind to advice consumers to avoid this supplements and alert physicians to the possibility of **induced psychiatric symptoms**.

References

1. Cohen PA, Bloszies, Yee, Gerona, "An amphetamine isomer whose efficacy and safety in humans has never been studied,?-methylphenylethylamine (BMPEA), is found in multiple dietary supplements", R. Drug Test Anal. 2016 Mar-Apr;8(3-4):328-33.
2. Perugi G, Vannucchi G, Bedani F, Favaretto E. Curr "Use of Stimulants in Bipolar Disorder". Psychiatry Rep. 2017 Jan;19(1):7
3. Salvadore G, Quiroz J, Machado-Vieira R, Henter ID, Manji HK, Zarate CA Jr "The neurobiology of the switch process in bipolar disorder: a review", J Clin Psychiatry. 2010 Nov;71(11):1488-501.

*No conflict of interest reported.

INAD Institut de Neuropsiquiatria i Addiccions

Parc de Salut MAR Barcelona