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THE EFFICACY OF DULOXETINE IN BULIMIA NERVOSA

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Abstract

Bulimia Nervosa (BN) is one of the most common eating disorders in industrialized societies, characterized by uncontrolled binge eating and self-induced purging or other compensatory behaviours aiming to prevent body weight gain. It has been suggested that reduced serotonergic tone triggers some of the cognitive and mood disturbances associated with BN. In fact in the active phase of BN the concentration of serotonin in cerebral fluid is reduced. For these reasons, the pharmacologic treatment of BN consists mainly of selective serotonin reuptake inhibitors (SSRIs). At present, the physiologic basis of this disorder are not yet completely understood.

Recently, it has been reported that BN may be controlled also by using drugs involving the noradrenaline (NA) system thus suggesting a possible treatment of BN with tricyclic antidepressants or serotonin and noradrenaline reuptake inhibitors (SNRIs). Given the above evidences, it is reasonable to assume the use of duloxetine, a SNRI, in the treatment of BN. Here, we present a study showing a strong evidence of duloxetine efficacy in the treatment of BN.

Keywords: Bulimia Nervosa, Duloxetine, SNRI

Introduction

The term bulimia nervosa (BN) refers to an eating behavior characterized by episodes of compulsive, greedy, uncontrolled ingestion of large quantities of highly-caloric easily digested foods [1-4]. Compensatory behaviors to control body weight often follow these episodic crises and include self-induced vomiting or the abuse of laxatives or diuretics. In 1994, the peculiarities of the bulimic crisis (binge eating) were defined in the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* on the basis of the quantity of food ingested and the patient's lack of control of the eating impulse [2]. The clinical complications of BN are associated mainly with chaotic eating behavior, especially the compensation behaviour for the overeating, which can cause side effects such as the erosion of dental enamel or inflammation of the esophageal mucosa, as well as electrolyte umbalances that can cause arrhythmias, cardiac and renal failure [5]. Patients with BN nearly always demonstrate mood disorders (depression), alcohol or drug addiction, self-damaging behaviors, panic, symptoms of obsessive-compulsive disorder, or other abnormal behaviours [1-5].

Recent theories about the underlying pathology in BN have focused on serotonergic acivity [6]. Neurochemical, endocrinologic and comorbidity studies have indicated a reduction in serotonergic transmission in the etiology of BN [6].

Therefore, the therapeutic treatments of BN are focused on the use of tricyclic antidepressants, particularly SSRI antidepressants, particularly fluoxetine [7-8].
Recently, it has been reported that BN resulted reduced also by using selective noradrenaline reuptake inhinitor (NRI) as reboxetine [9,10].

Given the above evidences, it is reasonable to assume the use of duloxetine, a SNRI, in the treatment of BN. Duloxetine is an inhibitor of the serotonin and norepinephrine reuptake and it weakly inhibits dopamine in neuronal synapses without interfering with hystaminergic and cholinergic receptors [11,12].

Here, we present a study showing a strong evidence of duloxetine effectiveness in the treatment of BN.

Patient, Methods and Results

The patient named G.R. was a young woman (28 years old) showing a diagnosis of BN, according to the criteria of the DSM IV. She was followed by our MHU (Mental Health Unit) starting by February 2008. G.R.. had a family history of depression in her mother. At 12 years old, G.R. reported symptoms of depression, such as loss of interest in daily activities, fatigue, reduced ability to concentrate, difficulty to sleep. At 20 years old, G.R. showed the first clinical BN behaviours as intense fear of gaining weight or becoming obese, although her weight was within the normal range. Later, G.R. showed recurrent episodes of binge eating and recurrent inappropriate compensatory behavior to prevent weight gain, such as self-induced vomiting. These BN behaviours were significantly associated with a mood disorders. G.R. began therapy for 6 months, taking duloxetine dose of 30 mg/die. The drug was well tolerated and then, after 10 days, rose to 60 mg/day.
G.R., throughout the therapy, recorded an alimentary diary where she registered the alimentary choice, the bulimic episodes, the weight, the possible compensatory behaviours and questionnaires self (bulit-R). 8 weeks after the beginning of duloxetine treatment, the episodes of binge and purging were significantly reduced and this reduction lasted for all the treatment period (24 weeks). The weight resulted normal (59 kg, height 163 cm, BMI 23). G.R. during duloxetine treatment, showed tolerated nausea, dizziness (infrequent), constipation and dry mouth and the therapy was not stopped.

Discussion

The results of the present study indicate that the SNRI, duloxetine is able to reduce significantly the BN behaviours thus confirming that the synergistic effect both on serotonin and noradrenergic system,

is effective in treating BN (11,12). The present study indicate that also SNRIs induce significative clinical effects on BN. Our BN patients treated with duloxetine demonstrated a statistically significant decrease in the number of binge-eating crises and purging episodes, moreover, the patient did not show significative side effects enough to interfere with treatment, thus indicating a high tolerability for duloxetine. These encouraging results suggest that also SNRIs may be a useful alternative to SSRIs or TCAs in the treatment of BN symptoms.

The use of SNRIs as a pharmacologic approach in the symptomatologic treatment of BN clearly has clinical value. We may suggest that the use of some SNRIs for the treatment of BN, in according with the most recent international literature, induces both a reduction of the bulimic episodes and a reduction of the compensatory behaviours that, as we have previously reported, induce various organic diseases. We think useful, in the symptomatological treatment of BN, the use of SNRIs that act on the mechanism of the serotonergic and noradrenergic neurotransmission.

However, further research is needed to confirm the efficacy and good tolerability of duloxetine in the treatment of BN.

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BN Behaviors	Bifore Duloxetine	After Duloxetine (60 mg/day)	Time Treatment
Binge Crisis	12/week	4/week	8 weeks
Purging	16/week	5/week	8 weeks
Binge Crisis	12/week	2/week	16 weeks
Purging	16/week	2/week	16 weeks
Binge Crisis	12/week	2/week	24 weeks
Purging	16/week	2/week	24 weeks
Weight	60 kg	60 kg	24 weeks
Mood Disorder	depressed	no depressed	24 weeks
Scale Bulimia Test Revised (bulit-R)	Score 115	Score 90	24 weeks
Side Effects		Nausea, Constipation, Dry mouth	24 weeks