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Letter to the Editor / Editöre Mektup

Bupropion Induced Increase in Sexual Desire in A Patient on Fluoxetine Treatment

Filiz Izci[1], Selma Bozkurt Zincir[1], Guler Acar[2], Umit Basar Semiz[3]

[1]Psychiatrist, [2]Psychiatry Resident , [3]Assoc. Prof. Dr., Erenkoy Training and Resarch Hospital for Psychiatry, Istanbul - Turkey

Address reprint requests to / Yazışma adresi: Psychiatrist Filiz Izci, Erenkoy Training and Resarch Hospital for Psychiatry, Kadıkoy, Istanbul - Turkey
Telefon / Phone: (216) 302 65 48
E-mail address / Elektronik posta adresi: filizizci@yahoo.com
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Dear editor,

Sexual side effects are common side effects of antidepressants causing treatment discontinuation in early treatment period. Increase or decrease in sexual desire, excitement and orgasm disorders are among those sexual side effects (1). As defined in the literature, selective serotonin reuptake inhibitors (SSRIs) induced sexual dysfunction (2,3) is due to the increase of serotonin activity and cortisol, opioid and prolactine levels. Tricyclic antidepressants' adverse effects on sexual functions may be due to the decrease in cholinergic and beta adrenergic activity, and histamine and oxytocin levels, and increase in prolactin and serotonin levels (4). Bupropion which is a dopamin and norepinephrine reuptake inhibitor, and a second generation antidepressant, is known to have lesser sexual side effects. It is believed that bupropion can also cause increased sexual activity due to its dopaminergic activity (5-7). In this paper, we are reporting a case with a diagnosis of obsessive compulsive disorder and depressive disorder that treated with fluoxetine, and had increased sexual desire after the addition of bupropion in her treatment.

N.O. was a 43 years old housewife, divorced, had one child and graduated from secondary school. It was learned that she had been treated for obsessive compulsive disorder for 15 years. Her recent treatment was fluoxetine 80 mg/day and her obsessions were stabile. For three weeks before her admission, she started to suffer from malaise, anhedonia, decreased energy, diminished interest and pleasure.

She had no organic illness and her routine complete blood count, biochemistry, thyroid function tests were in normal ranges. Hamilton Depression Scale (HAM-D) and Yale Brown Obsessive Compulsive Scale (Y-BOCS) were performed to the patient. HAM-D score was 24, Y-BOCS score was 13. Major depressive disorder and obsessive compulsive disorder with partial remission were diagnosed. Bupropion 150 mg/day was added on her fluoxetine treatment. A week later, the patient admitted to our outpatient clinic with the complaint of increased sexual desire that was hard to suppress and very disturbing for her. Meanwhile, her depressive complaints had decreased. HAM-D, Y-BOCS, Arizona Sexual Experiences Scale (ASEX) (8,9) scores were 9, 11, 8, respectively. Bupropion treatment was discontinued. Fifteen days later a marked decrease in her sexual desire was observed and ASEX score was 18. It was decided to follow up the patient only with fluoxetine 80 mg/day treatment.

Antidepressants may cause an increase or a decrease

in sexual functions. These side effects are seen in both genders. It is considered that these side effects are related to the specific or nonspecific neurotransmitters' effects on central and autonomous nervous system (10-13). SSRIs have an inverse effect on sexual excitement with serotonergic activity and bupropion causes an increase in sexual excitement with dopaminergic activity (14-16). It was shown that sexual desire and excitement is related with dopaminergic activity on mesolimbic system (7). The increased dopaminergic activity in nucleus accumbens, one of the important part of the limbic system, is found to be related with increased sexual activity (17). Experimental researches showed that dopamine and serotonine in medial preoptic area have a very significant role on the regulation of sexual activity. In male rats, it was shown that the increase in dopaminergic activity in medial preoptic area lead to an increased sexual activity (18), and inversely, increase in serotonergic activity in this area, decreased it (19). In some studies, SSRI induced sexual dysfunction improved after bupropion augmentation (20-22). In a study comprised of 8 patients suffering from SSRI induced sexual dysfunction, it was reported that 2 months after bupropion augmentation, sexual dysfunction significantly improved in 4 patients. In this study bupropion was considered as a treatment option in patients suffering from SSRI induced sexual dysfunction (21). In a similar study comprised of 47 patients with SSRI induced sexual dysfunction, 75 mg and 150 mg doses of bupropion were given and 2 weeks later sexual dysfunction was improved in 31 patients. Bupropion was considered again as a treatment option for patients suffering from SSRI induced sexual dysfunction (14). There is a case report stating that after addition of bupropion to a patient's treatment with fluoxetine induced sexual dysfunction, hypersexuality emerged (22). In another study, 117 patients with SSRI induced sexual dysfunction were assessed; patients taking 150 mg/day bupropion were compared with 117 patients taking placebo. Twelve weeks later, sexual dysfunction levels in the bupropion treatment group significantly decreased (23).

This is very similar to our case but the difference is that in our case, bupropion was added because of depressive symptoms. Depressive complaints improved but increase in sexual desire emerged. In our case, with bupropion treatment, sexual appetite increased and ASEX scores were decreased. On the other hand, after discontinuing bupropion treatment, sexual appetite decreased and ASEX scores increased. So we can consider that bupropion might cause sexual dysfunction in some cases and also might improve sexual dysfunction in patients with SSRI induced sexual function. On the basis of our case and the literature, we considered that bupropion may cause an increase in sexual appetite by increasing dopaminergic activity in mesolimbic area in the brain. But comprehensive researches are needed to show molecular effects and side effects at the clinical level.

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