

## DULOXETINE-RELATED GALACTORRHEA AND RESTLESS LEGS SYNDROME: A CASE REPORT

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### INTRODUCTION

High prolactin hormone level in the blood is known as hyperprolactinemia. The most common symptom of hyperprolactinemia is galactorrhea, in which spontaneous milky discharge is seen from all ducts of the two mammary glands. Dopamine has an inhibitor effect on prolactin, in the tuberoinfundibular tract and inhibition of dopamine increases the serum prolactin level (Feuchtl et al. 2004). Monoaminoxidase inhibitors, tricyclic antidepressants, and selective serotonin reuptake inhibitors (SSRIs) were identified as a cause of hyperprolactinemia (Wieck et al. 2004). However, data regarding hyperprolactinemia due to duloxetine, a novel serotonin-noradrenaline reuptake inhibitor, are limited (Ashton & Longdon 2007).

Restless legs syndrome (RLS) is a sensorimotor disorder characterized by distressing sensations deep inside the limbs, typically occurring at bedtime or rest. These paresthesias involve an irresistible urge to move the limb, which provides temporary relief but at the expense of sleep and quality of life. RLS may be a primary or a secondary condition. Secondary causes of RLS include iron deficiency, chronic kidney disease, pregnancy, and various medications (Allen et al. 2003). In a study, RLS was noted as a possible side effect of the use of fluoxetine, paroxetine, citalopram, sertraline, escitalopram, venlafaxine, duloxetine, and mirtazapine (Rottach et al. 2008).

In the present paper, we report a case of duloxetine-related galactorrhea and restless legs syndrome.

### CASE REPORT

Ms. P, female, 46 years old. She applied to our clinic with the complaints of depression. A screen for symptoms of depression revealed that she had hopelessness, low energy, anhedonia, appetite, poor concentration, a strong sense of guilt and insomnia. Beck Depression Inventory (BDI) (Beck 1961) was used to screen for depression. BDI scores for depression was determined as 42. She had become increasingly upset over 2 months and noticed depressive symptoms. Her psychiatric history did not include previous episodes of depression. Duloxetine was started with the dose of 30 mg per day and the dose was increased to 60 mg per day within 4

weeks. Six weeks later, she applied to our clinic with the complaints of milky discharge, fullness, breast pain, distressing sensations deep inside the limbs occurring at bedtime and paresthesias consisting in an irresistible urge to move the limb. The patient reported that there was not this kind of complaints before duloxetine treatment.

Results of neurological, general physical examination, and laboratory investigation, including blood chemistry, thyroid function test, FSH, LH levels, liver and renal functions were normal. Magnetic resonance imaging (MRI) focused on the brain and particularly the pituitary gland, and result of this test was within normal limit. Her serum prolactin level was measured as 37.9 ng mL. As repeated serum prolactin levels gave the same results. We sought to eliminate the most likely causes of galactorrhea. She was married but was not having menstrual periods. No evidence of any extrapyramidal symptoms was found.

Duloxetine treatment was stopped and bupropion was started at the dose of 150 mg per day and the dose was increased to 300 mg per day within 4 weeks. At the end of the 2nd week under bupropion treatment, her galactorrhea and RLS symptoms improved considerably. Six weeks after initiated bupropion, her serum prolactin level was measured as 20.2 ng mL. At the end of 12th week under bupropion treatment, she was also euthymic with a BDI score of 8.

### DISCUSSION

It was reported that women are more vulnerable to prolactin elevation when using antidepressants (Halbreich et al. 2003). Our case had been suffering from depression without any galactorrhea and RLS symptoms. Furthermore, patients treated with duloxetine may present with galactorrhea and RLS as unwanted side effects of therapy. The mechanism by which antidepressants may cause hyperprolactinemia is not fully understood, though several theories have been postulated, such as serotonin stimulation of GABAergic neurons and indirect modulation of prolactin release by serotonin (Coker & Taylor 2010). However, hyperprolactinemia may be caused by two distinct mechanisms, the presynaptic inhibition of dopamine discharge by serotonergic receptors (Egberts et al. 1997), or the

direct stimulation of hypothalamic postsynaptic serotonergic receptors (Bronzo & Stahl 1993). In one study, RLS was noted as a possible side effect of the use of fluoxetine, paroxetine, citalopram, sertraline, escitalopram, venlafaxine, duloxetine, and mirtazapine (Rottach et al. 2008). Mechanisms mentioned in here, dopaminergic transmission may also play an important role in the pathogenesis.

We have preferred switching to bupropion as another antidepressant. At the end of the 2nd week under bupropion treatment, galactorrhea and RLS symptoms improved considerably in our case. Bupropion should be considered for depressed patients with galactorrhea and RLS.

Clinicians need to be aware of these unusual side-effects of duloxetine, because galactorrhea and RLS may play an important role in compliance with treatment and can act as an additional stress factor for the patient.

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