

# Galactorrhea during Duloxetine Treatment: A Case Report



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## SUMMARY

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 2 mammary glands. Galactorrhea occurs due to different medical conditions, including the use of antidepressant medications. Herein we report a hyperprolactinemia case with galactorrhea due to duloxetine treatment for depression.

## INTRODUCTION

Spontaneous milky discharge from the ducts of both mammary glands is known as galactorrhea. Galactorrhea occurs due to different medical conditions, including the use of antidepressant medications. Activation of the serotonergic system blocks dopamine, an inhibitor of prolactin in the tuberoinfundibular tract, resulting in an increase in the prolactin level and finally galactorrhea (Feuchtl et al. 2004). Another mechanism involved in elevated prolactin via serotonin is direct stimulation of hypothalamic postsynaptic serotonergic receptors (Bronzo and Stahl 1993). Monoaminoxidase inhibitors, tricyclic antidepressants, and selective serotonin reuptake inhibitors (SSRIs) can lead to a small increase in prolactin levels (Checkley 1991; Wieck and Haddad 2003). Hyperprolactinemia and galactorrhea associated with the use of SSRIs such as sertraline and fluvoxamine has been reported (Bronzo and Stahl 1993; Spigset and Mjorndal 1997; Peterson 2001; Yang et al. 2009). On the other hand, data regarding hyperprolactinemia due to duloxetine, a novel serotonin-noradrenaline reuptake inhibitor, are limited (Ashton and Longdon 2007). Herein we report a hyperprolactinemia case with galactorrhea due to duloxetine treatment for depression.

## Case

An unemployed 44-year-old female patient that was married, had 3 children, and was a primary school graduate presented to our clinic with milky discharge, fullness, and breast pain. The patient's history was positive for use of different classes of antidepressants due to a diagnosis of depression, whereas it was negative for other psychiatric illnesses, medical illness, surgery, and alcohol and substance abuse. Her physical examination and routine biochemical tests, including thyroid-stimulating hormone, urea, and creatinine, were normal. She was not pregnant and wasn't using oral contraceptives.

Anxiety, somatic signs of anxiety, insomnia, depressive mood, anhedonia, and irritability were defined during her psychological examination. Hamilton Depression Scale and Beck Anxiety Scale scores were 15 and 35, respectively. In order to exclude the possibility of a brain tumor, she was referred to the neurology department for cranial magnetic resonance imaging (MRI), the results of which were normal, without any tumoral formation in the hypophysis. The patient reported that there wasn't this kind of complaints although using another antidepressant drugs before duloxetine treatment. Her serum prolactin level was measured as 38.8 ng mL<sup>-1</sup>. As repeated

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serum prolactin levels gave the same results, the patient was referred to the obstetrics and gynecology department. The patient was told to abstain from sexual intercourse and stimulating her nipples for 1 week. As the patient's serum prolactin level was 33.2 ng mL<sup>-1</sup> after 1 week, treatment with 0.5 mg of cabergoline (a dopamine receptor agonist) 2 d week<sup>-1</sup> was initiated. The patient was diagnosed as major depressive disorder according to the Structured Clinical Interview for DSM-IV (SCID-I) (Çorapçıoğlu et al. 1999). Duloxetine treatment was terminated and escitalopram 20 mg d<sup>-1</sup> was initiated and regular follow-up visits were recommended.

## DISCUSSION

Different conditions can elevate serum prolactin levels, including psychological stress and exercise (Reichlin 1985). The normal range for the serum prolactin level, which oscillates during the menstrual cycle, is below 20 ng mL<sup>-1</sup> (Cooper et al. 1981). It was reported that women are more vulnerable to prolactin elevation when using antidepressants (Halbreich et al. 2003). The fact that the presented case was female and no other cause for prolactin elevation was determined supports this finding.

In galactorrhea due to drug use prolactin levels are normal or below 100 ng mL<sup>-1</sup> (Cooper et al. 1981). In the presented case the prolactin level was 39 ng mL<sup>-1</sup>, which supports data in the literature, and confirms that it is due to a drug side effect rather than to a tumor. A multicenter study reported low prolactin levels in 95% of women treated with 1 mg of cabergoline 2 d week<sup>-1</sup> (Webster et al. 1993). Accordingly, we used cabergoline, an ergot alkaloid, which is long acting and reported to have 7-fold higher D2 receptor subtype activity than bromocriptine (Colao et al. 2000).

The optimum duration of cabergoline treatment for hyperprolactinemia is unclear; as such, we didn't plan a particular period of treatment. As the patient's prolactin level returned to within the normal range, we stopped cabergoline treatment after 1 month and recommended regular follow-up visits. Hyperprolactinemia can lead to gynecomasty, galactorrhea, sexual dysfunction, oligomenorrhea, amenorrhea, infertility, and osteoporosis, as well as mood changes like hostility, depression, and anxiety (Edge and Segatore 1993). We think that more studies and case reports on hyperprolactinemia and galactorrhea due to antipsychotic antidepressant medications are needed.

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