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# Effect of raloxifene (a Selective Estrogen Receptor Modulator (SERM)) as coadjuvant to antidepressant treatment: A case report

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We report a case of a woman with a depressive disorder with partial response to antidepressant treatment. Raloxifene, a Selective Estrogen Receptor Modulator (SERM) was added to the treatment, the patient achieving complete remission of her depressive symptoms. The interest of our case lies in the fact that it exemplifies the relationship between depressive disorders and hormonal changes during menopause. Furthermore, raloxifene may become a novel therapeutic option in some postmenopausal women who do not respond or only partially respond to SSRIs, especially in those with a history of depressive disorders related to menopause.

**Key words:**  
Raloxifene, Treatment, Depressive disorder, Estrogens

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## Efecto del raloxifeno (Modulador Selectivo del Receptor Estrogénico (SERM)) como coadyuvante del tratamiento antidepressivo. A propósito de un caso

Se presenta el caso de una paciente con un trastorno depresivo con respuesta parcial al tratamiento antidepressivo. A la paciente se le añadió raloxifeno, Modulador Selectivo del Receptor Estrogénico (SERM), y se consiguió una remisión completa del episodio depresivo que presentaba. El interés de nuestro caso radica en el hecho que ejemplifica la relación entre los trastornos depresivos y los cambios hormonales durante la menopausia. Además,

*In memory of Marta Barceló Campaña*

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el raloxifeno puede ser una nueva opción terapéutica en algunas mujeres en la postmenopausia que no responden o lo hacen de forma parcial a los ISRS, especialmente en aquellas con historia de trastornos depresivos relacionados con la menopausia.

**Palabras clave:**  
Raloxifeno, Tratamiento, Trastorno depresivo, Estrógenos

## INTRODUCTION

The use of estrogens as co-adjuvant treatment in depressive disorders related with the peri- and postmenopausal phases is a promising therapeutic strategy.<sup>1,2,3</sup> However, its use in long-term treatments has the disadvantage of its potential negative affect on the mammary and uterine tissue. For this reason, raloxifene, a selective estrogen receptor modulator (SERM) that can act as an agonist or antagonist on the estrogen receptors of different tissues and that in preclinical studies has demonstrated estrogenic agonist effects on the central nervous system,<sup>4,5</sup> can be a good therapeutic option in some postmenopausal women who suffer depression.

We present the case of a female patient with a recurrent major depressive disorder with partial response to antidepressant treatment. Raloxifene was added to the patient's treatment, resulting in complete remission of her depressive episode.

## CLINICAL CASE

This is a 57-year-old woman who consulted in our Mental Health Center due to depressive episode with melancholic symptoms. The patient had no medical-surgical backgrounds of interest. As psychiatric backgrounds, she had two mild episodes of postpartum depression, for which she had not received treatment. Three years before the consultation, she had a depressive episode coinciding with

the peri-menopause that remitted with 20 mg/day of paroxetine. The treatment with paroxetine has been maintained for these three years.

In the first visit to the mental health center, the patient had depressive symptoms dating from one month earlier. The dose of paroxetine was increased to 40 mg/day. The patient did not improve with this increase in dosage or when a switch was made to venlafaxine 300-mg/day. A second switch was made to duloxetine 120-mg/day and the patient improved. However at three months, she developed hypomanic symptoms that remitted when the antidepressant was withdrawn and quetiapine 200-mg/day and valproate 1000-mg/day were added.

One month later, the patient had a depressive recurrence, for which she was hospitalized and the valproate was withdrawn due to side effects. On discharge, after one month of hospitalization, the patient continued with treatment with lamotrigine 200-mg/day and paroxetine 30-mg/day. She had improved, but had not achieved complete remission of the depressive symptoms. Two months after discharge and considering that the patient still had depressive symptoms (sadness, anhedonia, concentration problems, lack of energy) and that the depressive disorder seem to be related with the peri-menopause, raloxifene 60-mg/day was added to the treatment. At 15 days of this new treatment, the patient improved until complete remission of the depressive episode she had.

## DISCUSSION

In some women, the variations of the sex hormone levels seem to be associated to an increase in depressive symptoms, as occurs in the premenstrual depressive disorder, sex hormone levels and perimenopausal depression.<sup>6</sup> In addition, although the risk of developing depression is not increased during postmenopausal, some data suggest that the response to Selective Serotonin Reuptake Inhibitors (SSRI) may be decreased.<sup>7</sup>

Although there is still little data on the effect of raloxifene as co-adjutant treatment in major depression, there is some evidence that it may be useful in some cases. Two clinical trials that evaluated the effect of raloxifene in the prevention of osteoporosis, found that this drug also had a positive effect on mood of women who had not suffered a depressive disorder.<sup>8,9</sup> Another study that found interesting results is a placebo-controlled pilot study that did not find differences at 4 and 8 weeks of co-adjutant treatment between the treatment and placebo group, but did find a favorable tendency in the treatment group at 8 weeks.<sup>10</sup> Furthermore, a clinical case published in 2007 found

that raloxifene had an effect on improving the antidepressant response of fluvoxamine.<sup>11</sup>

The clinical case that we present is of interest because it exemplifies the relationship between depressive disorder and hormone changes during menopause. Furthermore, it is one more piece of information that points to the fact that raloxifene may be a new therapeutic option in some women in the postmenopausal phase who do not respond or only partially respond to SSRIs, especially in those with a history of depressive disorders related with menopause. We hope that this clinical case will stimulate the design of double-blind placebo controlled clinical trials that evaluate the efficacy of raloxifene as co-adjutant to antidepressant treatment.

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