Suicidal Risk in a Patient Receiving Tamoxifen Treatment for Breast Cancer

To the Editor: Tamoxifen is a first-generation selective estrogen response modulator widely used in breast cancer. We have found no reported case of suicide linked to tamoxifen. We report a case of a 53-year-old woman who made a dramatic suicide attempt following a breast cancer treatment with tamoxifen.

Case report. Ms A, a 53-year-old mother of 3 children with no psychiatric antecedents, was diagnosed in November 2006 with estrogen receptor–positive breast cancer. She quickly underwent a partial mastectomy followed by radiotherapy. She was not particularly worried following the discovery of her cancer, as it had been discovered at an early stage.

Tamoxifen was started in February 2007. After tamoxifen treatment was begun, she progressively developed insomnia, hot flushes, unusual sweating, urinary infections, buzzing in the ears, memory and concentration problems, and an overwhelming fatigue. She also lost her appetite and was unable to taste salt as before. She lost 10 kg in 6 months. Several of these symptoms are typical of estrogen suppression therapy.

Her fatigue, loss of appetite, and depressive mood seemed to justify the introduction of antidepressants: venlafaxine was started at 75 mg/d and continued for 15 days but was stopped due to a worsening of excessive sweating. It was followed by escitalopram at 10 mg/d titrated to 20 mg/d after 15 days.

In July 2007, she experienced hemorrhoidal thrombosis and vaginal discharge, side effects also commonly seen with estrogen suppression therapy. At that time, tamoxifen was stopped. In August, escitalopram, which was given for 2 months without results, was replaced by mirtazapine at 30 mg/d by her general practitioner. She was then feeling hopeless and exhausted, and she considered herself to be such a burden on her husband and children that she shot herself in the belly with her husband's shotgun 2 days after this change of treatment. She survived but had to undergo right nephrectomy and gall bladder exeresis.

Her mood gradually improved, and she regained weight rapidly despite her life-rescuing intervention. She decided to stop mirtazapine by herself after 2 months of treatment. Her condition continued to improve: the overwhelming fatigue totally subsided, her taste for food returned completely, and her memory and concentration returned to normal levels.

However, she abruptly relapsed in March 2008, showing marked psychomotor retardation and concentration problems. Bupropion 150 mg/d and mirtazapine 30 mg/d were introduced; no improvement was seen after 1 month.

As her family, and her general practitioner, reported that her mood and energy level were somewhat above normal after her first depressive episode, and in fact reflected her usual self, the possibility of a mood disorder belonging to the spectrum of bipolar disorder type II[1] was evoked and lamotrigine was introduced.

Her mood totally returned to its usual state after 2 months. Bupropion and mirtazapine were both stopped by the patient another 2 months afterward. Her mood has remained stable ever since with continual treatment with lamotrigine 200 mg/d.

Depression and anxiety are frequent in breast cancer due to psychological adaptation difficulties and to consequences of treatment procedures.[2] Depression was seen largely after cancer diagnosis and treatment in our patient. Improvement of her first episode followed tamoxifen suppression. The second episode did not follow any observable cause. Its beginning was abrupt, and it was characterized by psychomotor retardation and contrasted markedly with the usual mood of the patient, which both before and between depressive episodes was characterized by elated mood and unusually high activity and energy level. As no depressive episode was observed before her 53rd year, we suggest that tamoxifen could have precipitated the onset of a mood disorder, which appears to be stabilized with the use of lamotrigine.

Reported rates of tamoxifen-induced depression vary from 1% to 17%.[3] As noted, we have found no reported case of suicide linked to tamoxifen.

The relationship between estrogen and mood is well known. Estradiol increases serotonin receptor density and increases urinary excretion of serotonin metabolite, reflecting an increase in production. Tamoxifen crosses the blood-brain barrier, and its antagonist properties could block the antidepressant effects normally produced by estrogen. Tamoxifen has recently been proposed as a treatment of mania, further suggesting a possible role in mood regulation.[4]

Suicidal behaviors have been linked to low serotonergic function in women with genetic predisposition.[5] Some women could be at risk to show suicidal impulses if treated with estrogen suppression therapy, depending on the constitutional polymorphism of their serotonergic system. Depressive symptoms should be carefully monitored after tamoxifen treatment induction, as some women might be particularly sensitive to estrogen-suppression effects on mood, which could lead to a possible suicidal outcome.

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