CASE REPORT

Estrogen Abuse: A case report

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Abstract : *Hormone replacement therapy (HRT) is being used increasingly over the past few decades. Although the physical and physiological effects of HRT have been extensively studied, only a few reports have documented the occurrence of withdrawal symptoms with HRT. We present the case of a 52 year old housewife with a psychiatric diagnosis of recurrent depressive disorder who was prescribed conjugated estrogen tablets following surgery. The patient went on to develop withdrawal symptoms every time a taper of estrogen was attempted and began taking tablets on an "as and when" required basis. She was eventually managed with a combination of fluoxetine, alprazolam and a thorough exploration and management of her knowledge and attitude towards her surgery as well as the hormonal medications.*

Key words: estrogen abuse, hormone replacement therapy

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INTRODUCTION

Abuse of anabolic and other steroids for increasing body weight, increasing body muscle mass and stamina to improve performance in competitive sports is far from rare.[1] A reasonable amount of literature also exists to suggest withdrawal syndromes associated with excessive endogenous secretion or therapeutic supplementation of various hormones.[2]

Hormones replacement therapy (HRT) in menopausal women has been in use of last 2-3 decades.[3] Because of both physiological and psychological effect of estrogen, few case reports have shown existence of withdrawal syndrome and abuse of estrogen in postmenopausal women receiving HRT.[4]

We present the case of a female who developed abused HRT and discuss the existing literature and management issues.

The case

Mrs. BK, 52 year old housewife, who was premorbidly well adjusted, had history of hypertension which was under control with Tab Atenolol 50 mg since 5 years, with family history of alcohol dependence was referred by her Gynaecologist for difficulty in tapering off hormonal replacement therapy. Exploration of history revealed that she was diagnosed with multiple fibroids (both uterine and extra-uterine) at the age of 46 years and underwent total hysterectomy and bilateral salpingo-oophorectomy. After the surgery, she was advised to take hormone replacement therapy. Initially patient was reluctant for the same and refused to take the same because of apprehension about the side effects, especially about the associated risk of breast cancer. However, after 1 month of surgery developed hot flashes, accompanied by palpitations, anxiety, sadness of mood, anhedonia, decreased sleep and appetite. However there was no history of any depressive ideations, suicidal ideations and substance use during this period. All the above symptoms evolved over the period of 2-3 weeks and by the end of 3 weeks patient became house bound and as a result again consulted her gynaecologist. After

evaluation, patient was advised tab. premarin 0.625 mg and tab. sertraline 100 mg per day, which she agreed to take. With the above medication, the symptoms of hot flushes, depressive and anxiety symptoms improved and she recovered completely in two months. After that, sertraline was completely stopped and premarin was continued in the same dose for next 4 years under the supervision of the gynaecologist. During this period she maintained well except for occasional hot flushes. At the end of four years, an attempt was made to taper and stop the premarin. As soon as the medication was stopped completely, the intensity and frequency of the hot flushes and palpitations increased and as a result premarin was again reinstituted. After reinstitution of premarin, although hot flushes reduced, but over the next few days she again developed depressive symptoms in the form of persistent sadness of mood with crying spells, anhedonia, depressive ideations, poor attention concentration, marked decrease in social interaction, low self esteem, alongwith reduction in sleep and appetite. She was again prescribed Tab. sertraline 100 mg per day by a psychiatrist, with which she improved over a period of 1 month and after which she discontinued sertraline on her own. After this her gynaecologist made several efforts to stop premarin, but everytime when this issue was discussed or an attempt was made patient would report hot flushes, anxiety and low mood. Over the next few months patient also started using one tablet of premarin as and when required to get relief from anxiety or hot flushes. Gradually the "as and when use" of premarin increased to 2-3 tablets of 0.625 mg per day and she started taking the same, when ever she anticipated anxiety in a particular situation or was not able to cope with her household work. As the gynaecologist was not able to taper off premarin and patients use of premarin more than the prescribed dose increased, she was referred to our department for further evaluation and management.

Her physical examination did not reveal any abnormality and on mental status examination, the patient was found to be anxious, voiced concerns over having to take premarin to be able to continue with her daily activities. On investigation hemoglobin, total and differential counts, liver and renal functions, lipid profile, electrocardiogram and ultrasound of the abdomen were found to be in the normal range.

With this history and examination, she was diagnosed as a case of Recurrent Depressive Disorder (currently in remission) with abuse of non-dependence producing substance (estrogen). She was managed with Cap Fluoxetine 20 mg per day along with Tab alprazolam 1 mg per day. She was educated about female endocrinological physiology, perimenopausal symptoms and hormone replacement therapy and all her misconceptions and queries were addressed. She was also taught Jacobson's progressive muscular relaxation exercises and was premarin was gradually tapered off in liaison with the gynecologist. On follow-up for the next 2 year, she continued to remain well on 20 mg of fluoxetine.

Discussion

The international classification of diseases (ICD - 10) describes a diagnostic category called the abuse of non-dependence producing substances.[5] The characteristics features for considering the diagnostic category include prolonged unnecessary and often excessive consumption of drugs (like an antidepressant, laxative, antacid or hormones) that do not produce dependence and attempts to discourage or forbid the use of these drugs are often met with resistance.

Although ICD-10 classifies the abuse of hormones including steroids under the category of non-

dependence producing substances, it has been seen that some of these drugs produce a typical withdrawal syndrome. Case reports suggest the development of marked withdrawal symptoms with stoppage of 0.625 mg estrogen[6] and direct and indirect forms of psychoactivity involved in inducing this withdrawal syndrome have been hypothesized.

The index patient had taken estrogen tablets without prescription and in excessive doses for a period of two months. She was not able to stop them despite repeated advice from her gynecologist. However, it cannot be categorically stated that the patient was not physiologically dependent on estrogen in any way. On attempts to withdraw, she showed features of a "withdrawal syndrome" in the form of hot flushes and anxiety. "Off and on" intake of premarin can be equated with development of tolerance. However, she did not have any other features of a dependence syndrome. The so-called withdrawal syndrome that she suffered from can be explained on the basis of decrease in estrogen levels. But the high level of psychological dependence demonstrated by the patient required a thorough exploration of her knowledge and attitude towards ovariectomy and hormone replacement therapy. She responded well to clarification of misconceptions regarding the natural functions of estrogen and the effects of surgery and hormone replacement therapy.

The Index case thus demonstrates the complex biological as well as psychological interaction between female reproductive functioning and psychiatric disorders. It also demonstrates that HRT has abuse potential and clinicians should be aware of it and any decision of prescription of the same should also include weighing the pros and cons of its abuse potential.

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