

A novel highly effective therapy for severe vasomotor symptoms in an estrogen deficient woman – case report

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Summary

Purpose: To describe a novel highly effective therapy for vasomotor symptoms associated with diminished oocyte reserve. **Methods:** A 58-year-old estrogen deficient woman with severe vasomotor symptoms was treated with 20 mg per day of dextroamphetamine sulfate. **Results:** A marked immediate improvement was noted. **Conclusions:** An acquired disorder of the sympathetic nervous system may be the etiologic factor for vasomotor symptoms in women with diminished egg reserve and treatment with sympathomimetic amines seems highly effective. This case will hopefully stimulate a larger series to determine its efficacy in a larger population.

Key words: Vasomotor symptoms; Estrogen deficiency; Sympathomimetic amines; Orthostatic edema.

Introduction

A simple highly effective therapy for vasomotor symptoms associated with the climacteric period, when there is a decline in ovarian oocyte reserve, is estrogen replacement. However, in some women estrogen treatment is not an option due to side-effects, medical contraindications, e.g., history of breast cancer, migraine headaches, thrombosis, or personal fears related to recent publicity concerning breast cancer and estrogen.

Alternative therapies in lieu of estrogen, e.g., clonidine or venlafaxine, have had limited success in treating hot flashes, flushes and sweats. There was a case reported where a very effective control of vasomotor symptoms was provided by treating a normal estrogenic female with vasomotor symptoms with dextroamphetamine syndrome [1]. This was attributed to her having a condition involving a defect in the sympathetic nervous system leading to the inability to compensate at the precapillary sphincter level to inhibit leakage of fluid from intravascular to extravascular spaces related to the increase in hydrostatic pressure that occurs with standing [2-5]. The most effective treatment for this idiopathic edema condition is sympathomimetic amines, especially dextroamphetamine sulfate [2-7].

In the young lady whose vasomotor symptoms responded to sympathomimetic amines, the theory was that her symptoms were related to cerebral edema putting pressure on the temperature regulation center of the brain. Treatment with sympathomimetic amines by reducing generalized edema also reduced cerebral edema, thus obviating the vasomotor symptoms. Thus it was thought that the use of sympathomimetic amines may improve vasomotor symptoms only in the specific circumstance of idiopathic edema where the edema is compressing the temperature regulation center which would be a relatively rare event.

However, the possibility exists that vasomotor symptoms in women of advanced age could be related to a defect in the sympathetic nervous system correctable by treatment with sympathomimetic amines. A test case of a 58-year-old woman with estrogen deficiency and very severe vasomotor symptoms who refused estrogen therapy and accepted therapy with dextroamphetamine sulfate sustained release capsules (10 mg) upon awakening and at noon is reported.

Case Report

A 58-year-old woman whose last menstrual period was at age 52, complained of severe hot flashes, flushes and sweats that had begun eight years before (when she was still menstruating), but that had now reached an unbearable point. She stated that for the past year she felt extremely warm and would break out in a sweat every half hour. These episodes would last 5-10 min. She also complained of waking up drenched at least four to five times per night and would need to throw off her covers.

Despite these severe vasomotor symptoms and the probability of great relief from using estrogen, because of the media publicity and her previous physician's advice, she did not want to take estrogen. In fact even though she was experiencing dyspareunia at the introitus, she did not even want vaginal estrogen cream.

She was advised that in our experience the alternative medications, e.g., clonidine or venlafaxine, have had marginal success with potential side-effects. However, since her other main complaint was the inability to lose weight despite dieting, we suggested that she consider dextroamphetamine sulfate. This would help the weight problem, if it was related to fluid retention, and potentially could help the vasomotor symptoms (though our experience was only in one patient) [1].

Since she did have an abnormal water load test, excreting 63 ounces of urine in four hours despite only ingesting 48 ounces while supine, but only excreting 35 ounces erect, she agreed to try.

Within two days of taking the sympathomimetic amine her hot flashes and flushes diminished to only one per day of a

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shorter duration and much less intensity. She no longer reported any night sweats during the two months of treatment.

Interestingly, she had stated in the beginning that she was trying to lose about 15 pounds, but was unable to do so. She weighed 164.5 pounds before treatment and went down to 150.5 pounds after two months of treatment. Her pretreatment heart rate was 68 bpm and was 80 bpm after dextroamphetamine sulfate therapy. Her pretreatment blood pressure was 116/72 and was 108/78 after two months of dextroamphetamine sulfate. She stated that she experienced no side-effects. Her abnormal free water clearance was not related to hypothyroidism since prior to therapy her thyroid hormone levels were normal.

Discussion

The beneficial effect of the sympathomimetic amine treatment was too quick to be explained by a relief in pressure on the temperature regulation center of the brain by reduction of edema. This favors that one etiology for vasomotor symptoms may be an acquired disorder in the sympathetic nervous system.

Thus, it seems likely that sympathomimetic amine therapy could be beneficial for a wider population. When the first case was published showing benefit in a young woman with normal estrogen, it was considered that the condition is rare and that sympathomimetic amine therapy may benefit a very limited population.

An abnormality in orthostatic fluid retention is common [5, 7]. The possibility exists that since this disorder is usually associated with an abnormal free water clearance, possibly the benefit will only be found in women with abnormal water load tests. Based on this case, if it was subsequently found in larger studies that dextroamphetamine sulfate is very effective for reducing vasomotor symptoms associated with diminished egg reserve, the abnormal orthostatic water retention may be more of a method to identify women with a defect in the sympathetic nervous system who may respond to therapy

rather than be the actual cause of the symptoms. Of course it would be interesting to determine if sympathomimetic amines are effective even in those women who do not appear to have orthostatic water retention.

We have used dextroamphetamine sulfate in some women for over 30 years. It is well tolerated with minimal side-effects. There is no dependence or any withdrawal symptoms if dosages are kept to 30 mg or less.

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