

The triad of luteal phase ocular migraines, interstitial cystitis, and dyspareunia as a result of sympathetic nervous system hypofunction

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Summary

Purpose: To evaluate whether ocular migraines can be related to sympathetic nervous system hypofunction, especially when associated with interstitial cystitis and dyspareunia. **Materials and Methods:** Dextroamphetamine sulfate was administered to a 34-year-old woman with a history of long-term interstitial cystitis, dyspareunia, and ocular migraines that were resistant to all other therapies. **Results:** In a short length of time the sympathomimetic amine therapy almost completely abrogated all of her symptoms and they have remained controlled while she continues on the drug. **Conclusions:** This is the first report of effectively treating ocular migraines with dextroamphetamine sulfate. The gynecologist should not be afraid to initiate therapy without referral to other specialists, especially if other symptoms of the sympathetic neural hyperalgesia edema syndromes exist, e.g., bladder pain of pelvic origin and dyspareunia.

Key words: Luteal phase; Ocular migraines; Sympathomimetic amines; Interstitial cystitis; Dyspareunia.

Introduction

The gynecologist is generally the main treating physician for most women. When a woman has a complaint of migraine headaches, usually the gynecologist will refer her to a neurologist to perform a history and physical and based on findings, determine what other investigations are necessary to rule out serious neurologic disorders. If organic pathological entities, e.g., tumors and aneurysms are excluded, the gynecologist will usually expect the neurologist to initiate pharmacologic therapy, e.g., ergotamines, beta-blockers or other drugs, e.g., topiramate.

Similarly if a woman has symptoms of interstitial cystitis, the gynecologist will usually refer the woman to a urologist or to a urogynecologist for appropriate diagnostic procedures and therapy.

Unfortunately, despite the exclusion of organic pathology, pharmacologic therapy frequently fails to improve symptomatology from these two entities.

Several case reports and editorials have been published especially in Clinical and Experimental Obstetrics and Gynecology about a very common chronic condition related to sympathetic nervous system hypofunction that is very treatable with sympathomimetic amines, yet resistant to standard therapy that causes among other problems, pain in various areas of the body including the pelvis [1]. The best

explanation for the tremendous long-lasting benefit from treating with dextroamphetamine sulfate is that it supplies the neurotransmitter that is deficient, leading to sympathetic nervous system hypofunction. One of the main functions of the sympathetic nervous system is that it diminishes cellular permeability. The hypothesized cause of pain is that the diminished sympathetic activity allows the absorption of chemicals and toxins into tissues from which they are normally barred; these chemicals either directly cause pain (as in the potassium sensitivity test for interstitial cystitis) or these toxins evoke an inflammatory reaction [2-4].

Several case reports have been published in Clinical and Experimental Obstetrics and Gynecology regarding migraine headaches refractory to standard therapy, but very responsive to sympathomimetic amine treatment [5-7]. Similarly, there have been reports showing very quick effective therapy with dextroamphetamine sulfate in women with interstitial cystitis who had failed to respond to conventional therapy [8].

The present case report describes a woman with a different type of migraine, an ocular migraine, who also suffered from interstitial cystitis and dyspareunia who responded very well to dextroamphetamine sulfate therapy.

Case Report

The patient is a 34-year-old woman complaining of long menstrual cycle intervals of 50-60 days. However from the time of

ovulation, she would have daily very painful ocular migraines, sometimes occurring several times per day which would cease with menstruation. These migraines began with a small blind spot in the center of the right eye which would gradually become wider and was described as widening prisms, then severe pain in the right eye would occur.

Taking various ergotamine preparations at the time of the aura had limited effectiveness on the eye pain. Beta-blockers and topiramate were also of limited value. Supplemental progesterone once ovulation occurred did not help either. The only therapy that she was presently receiving was fluoxetine Hcl, which she took from ovulation to her menses. She stated that it did not help the pain as much as her anxiety over the pain.

The bladder problems were described as both dysuria and urgency. The problem began when she was 22 years of age. The problem was associated with nocturia of at least one to two times per night and would occasionally occur six to seven times per night. The interstitial cystitis was diagnosed after cystoscopy. Pentosan polysulfate did not help. She did have mild relief from bacillus calmette-guerin (BCG) injection which had been given for six months. The only time in 12 years that she had a remission was during pregnancy. Also, since age 22, she had a deep type of dyspareunia. It was always present but worsened premenstrually.

When she returned after one month of taking 15 mg of dextroamphetamine sulfate extended release capsules, she stated that her migraines, bladder pain, and dyspareunia were completely gone. She had noted marked relief in all of her symptoms after the first week of therapy. She has remained in complete remission while on dextroamphetamine sulfate therapy for 18 months. She has stopped the fluoxetine Hcl.

Discussion

The gynecologist frequently has become the primary care physician for women. The role of the primary care physician is to treat those disease entities that are within the scope of his/her expertise and refer to other specialists when the gynecologist thinks a different type of specialist would be more suitable to diagnose or treat a particular condition.

Unfortunately the various specialists are usually unfamiliar with the relatively common disorder of sympathetic nervous system hypofunction referred to as the sympathetic neural hyperalgesia edema syndrome [9]. Frequently, the female is subjected to a potpourri of expensive, painful, and sometimes risky tests and yet fails to achieve a diagnosis of the true pathological state. Frequently the female is subjected to various medications, which may be expensive, risky or associated with unpleasant side-effects when simply one very safe drug, dextroamphetamine sulfate, would have quickly and effectively provided relief from the symptoms.

For example, for the woman described in this report, the use of dextroamphetamine sulfate and the role of the sympathetic neural hyperalgesia edema syndrome as key etiologic factor in causing migraine headaches, interstitial cystitis, and pelvic pain including dyspareunia, has been mainly published in gynecologic journals [1, 5-8, 10-12].

Thus in this case, after recognizing a triad of seemingly unrelated symptoms that have been described as secondary to this disorder of sympathetic nervous system hypofunction, it would be reasonable to try sympathomimetic amine therapy before referring the woman to various specialists. It would be highly-unlikely that a brain tumor or leaking aneurysm would improve with this type of therapy. Even if the gynecologist is not comfortable and wants to at least acquire an opinion from a neurologist or urologist, in this case the patient is at least aware that her problem has improved and can decide if she wants to undergo other tests, possibly suggested by the consultant just to be sure there is no other underlying entity depending on their expense, discomfort or risk after considering her degree of improvement of symptoms.

Though sympathetic nervous system hypofunction is the underlying defect allowing the absorption of toxins into various tissues, there are other factors, i.e., genetic, infectious, hormonal or environmental, that cause one woman to have symptoms in one organ system, e.g., the neurologic systems, with the musculoskeletal system, or the gastrointestinal system, or the skin in others [9, 13]. It is interesting that in this woman, the interstitial cystitis problem was not related to the changes in hormone secretion during the luteal phase, but the ocular migraines and the dyspareunia were associated with corpus luteum function. One explanation for this is that the defect in the bladder allowing the absorption of chemicals and toxins was significant enough that the sympathetic hypofunction allowed the bladder symptoms all cycle. However, both pelvic and the brain tissues were able to inhibit the absorption of chemicals and toxins until the secretion of progesterone or other factors from the corpus luteum. This suggests the possibility that there is a further suppression of the sympathetic nervous system function during the luteal phase, which was now sufficient to allow the absorption of toxins into these tissues.

Though, there have been other case reports of marked improvement of migraine headaches with dextroamphetamine sulfate therapy despite resistance to standard treatments, this is the first report of successful treatment of ocular migraines [5-7].

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