

Case Reports

Sympathetic neural hyperalgesia edema syndrome, a frequent cause of pelvic pain in women, mistaken for Lyme disease with chronic fatigue

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Summary

Purpose: To show that chronic fatigue syndrome can be mistakenly attributed to Lyme disease rather than considering sympathetic neural hyperalgesia edema syndrome. This common disorder of women, frequently, but not always causing pelvic pain, can present simply as chronic fatigue. **Methods:** A water load test was performed in a woman reactive for B-Burgdorferi with chronic fatigue whose symptoms did not improve despite three months of treatment with doxycycline. A water load test was performed. **Results:** She failed the water load test by excreting only 50% ingested load standing for four hours. She showed marked improvement following treatment with dextroamphetamine sulfate. **Conclusions:** This very treatable disorder of the sympathetic nervous system should be considered in women with an unknown cause of chronic fatigue or if the symptoms persist despite treatment of another potential cause.

Key words: Chronic fatigue; Sympathomimetic amines; Lyme disease; Water load test.

Introduction

A disorder of the sympathetic nervous system has been found to be a significant cause of pelvic pain in women including pelvic pain of bladder origin, persistent pelvic pain, dyspareunia and dysmenorrhea frequently, but not always associated with endometriosis [1-3]. This syndrome has been associated with a large variety of unexplained and refractory health problems in women [4]. These women respond quickly and very well to treatment with sympathomimetic amines [4]. In order to encompass the various presentations of this disorder of the sympathetic nervous system it has been recently named the sympathetic neural hyperalgesia edema syndrome [3].

Case Report

A 40-year-old woman wanted to delay infertility treatment despite her diminished oocyte reserve because she felt too ill from "Lyme disease" despite antibiotic treatment. Her symptoms were generalized aches and pains, marked fatigue and hair loss.

She consulted both rheumatology and infectious disease specialists. She tested positive for Lyme disease and was treated for three months with doxycycline. She was reactive for B-Burgdorferi antibody IgG 41 kD and B. Burgdorferi IgM 23 kD. Unfortunately her symptoms failed to improve.

She sought our opinion not because of her chronic fatigue ailment but for infertility therapy once her arthralgia and fatigue issues that had been present for over a year were resolved. She stated that she was too fatigued at present to carry the extra

burden of a pregnancy. Furthermore another course of intravenous antibiotic was being considered and this antibiotic may have been contraindicated during pregnancy.

Her hemoglobin was 13.6 g/dl (nl 11.7-15.5), hematocrit 40.2 (nl 35-45.0%). The white blood count was $7.0 \times 10^3/\text{ml}$ (nl 3.80-10.8) and serum free thyroxine was 1.1 ng/dl (nl 0.8-1.8). The thyroid stimulating hormone was 1.29 (nl 0.40-4.50). Her fasting serum glucose was 93 ng/dl (nl 65-99) and serum insulin was 8 uIU/ml (nl < 17). Epstein Barr virus was positive only for EBV nuclear antigen IgG at 4.96 (nl $\leq .90$) and for EPV VCA IgG at 2.64 (positive equal ≥ 1.10). Liver function and kidney function tests were normal. The Westergren sedimental rate and C-reactive protein were both negative. Liver and kidney function tests were negative. Electrolytes were also normal as were the serum calcium and parathyroid hormone levels.

The patient performed a water load test where six cups of water are ingested over a half-hour time-period on two consecutive days. The amount of urine excreted over four hours, the first day supine for four hours and the second day erect found 6 ½ cups excreted supine vs only three cups standing. This abnormal free water clearance in the erect position was consistent as a defect in the sympathetic nervous system that does not allow the proper closure of pre-capillary sphincters that inhibit water transudation to extra-vascular spaces by the increase in hydrostatic pressure [5].

The patient was treated with dextroamphetamine sulfate (15 mg a.m.). She recorded for the first time a significant improvement in her fatigue that had lasted three months to date.

Discussion

The gynecologist is generally the main treating physician of female patients. For problems outside the scope of the gynecologist generally women are referred to specialists. In fact in the case reported, her gynecologist

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referred her first to a rheumatologist and then to an infectious disease specialist.

Though this disorder of the sympathetic nervous system is common, it remains an entity not considered in most differential diagnoses. When there is pelvic pain and some symptoms for which standard tests have failed to identify the etiology, it behooves the gynecologist to think of sympathetic neural hyperalgesia edema syndrome.

This case, however, did not have pelvic pain. Thus the gynecologist should be aware that certain health issues may evade the proper diagnosis and treatment of some women because most specialists are not thinking of or are not aware of this entity. Thus the gynecologist could easily administer the water load test, which is usually but not always abnormal, in women with this syndrome, and could still refer to a specialist to rule out disease entities outside the scope of practice of the gynecologist. However, that same gynecologist, who is the quarterback of that woman's care, should keep a close eye on treatment suggestions or invasive diagnostic tests and could intervene and treat with sympathomimetic amines if in the gynecologist's opinion the treatment with sympathomimetic amines is likely to be less risky and more efficacious than the proposed therapy or suggested testing by the consultants.

Some chronic debilitating illnesses other than already mentioned that are refractory to various therapies but respond quickly and effectively to sympathomimetic amine therapy include gastrointestinal pain syndromes, e.g., esophageal pain, gastroparesis and pseudointestinal obstruction [6-8]. We even presented a case of very severe Crohn's disease at the 2009 Advances in Inflammatory Bowel Diseases Crohn's & Colitis Foundation's Research & Clinical Conference who failed to respond to mesalamine, prednisone, cyclophosphamide and infliximab and who was recommended to have a diverting ileostomy, but who dramatically responded to sympathomimetic amine therapy. Other pain syndromes include headaches [9, 10], rheumatoid arthritis [11], and backache, saving the woman from a proposed laminectomy [12]. Other conditions that defied diagnosis and treatment yet responded to treatment with sympathomimetic amines include chronic urticaria [13-15], vasomotor symptoms not responding to estrogen [16, 17], and inability to lose weight despite dieting [18].

The present case cautions the treating physicians that if a case of chronic fatigue tests positive for Lyme disease this sympathomimetic disorder should be considered if the fatigue does not respond to antibiotic therapy. This condition should also be considered when the etiology of the chronic fatigue is obscure or does not respond to standard treatment for another possible etiology.

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