January 2017 IACFS-ME Clinical Cases

Treatment of Postural Orthostatic Tachycardia Syndrome and Management of Myalgic Encephalomyelitis/Chronic Fatigue Syndrome following West Nile Virus Infection

Nicole Baldwin, BA, University of Minnesota Medical School-Twin Cities; Kristy O. Murray, DVM, PhD, Baylor College of Medicine; Melissa N. Garcia, PhD, MPH, Baylor College of Medicine; Lucinda Bateman, MD, Bateman Horne Center of Excellence

Background: Postural orthostatic tachycardia syndrome (POTS) and myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS) have been associated with a variety of viral triggers, but to the best of our knowledge, cases following West Nile virus infection are not yet reported in the literature. Here we present a case meeting criteria for POTS, ME/CFS (SEID) (2015 IOM case definition), and fibromyalgia, in which debilitating symptoms began with an acute viral illness with suspected encephalitis and repeat positive serum West Nile virus IgG.

Objectives: To present a case suggesting West Nile virus as another possible trigger of POTS and ME/CFS, and to highlight the importance of POTS treatment.

Treatment Methods: Multiple interventions were integrated in the patient's care, particularly targeting POTS symptoms. Behavioral interventions included compression clothing and increased fluid and sodium intake. Pharmaceutical interventions included desmopressin, midodrine, fludrocortisone, and propranolol.

Results: With pharmaceutical and behavioral interventions, the patient's POTS symptoms were significantly diminished, widespread pain was eliminated, and fitness and function were improved. In particular, compression clothing and desmopressin contributed significantly to his improvement. He continues to manage ME/CFS symptoms including fatigue, cognitive impairment, disordered sleep, and exercise intolerance, although long-lasting post-exertional malaise is less frequent and severe.

Conclusions: This case report highlights the importance of thorough medical history and examination. In particular, the evaluation and treatment for POTS in presentations of chronic fatigue can make a significant impact on patients' health. This case also contributes to the list of possible viral triggers of POTS and ME/CFS, as well as the possible enduring consequences of acute flavivirus infection. These findings are important from a public health standpoint, since WNV has become the most common arboviral infection in the US, resulting in millions of clinical cases and establishment of cyclic outbreaks.

Exploring the role of environmental exposure in the causality of chronic illness and Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS)

Rozenfeld, I.R*, Renesca, V.,* Jones, D.*, Barreda, A.* & Klimas, N.G.*. **
*Nova Southeastern University College of Osteopathic Medicine Institute for Neuro-Immune Medicine, **Miami VA Medical Center

Introduction: The purpose of this presentation is to provide a different approach to the assessment of the patients with indeterminate chronic illnesses, including ME/CFS. Exposure to environmental pollutants can cause accumulation of toxic substances in the body and induce disease through several distinct mechanisms. A case study is used to describe the need for an environmental evaluation during the workup of complex multi-system disorders.
Case Presentation: A 66-year-old male presented to the clinic with chronic fatigue, muscle and joint pain, and severe post exertional malaise. The patient has difficulty falling and staying asleep as well as severe cognitive problems and orthostatic intolerance. The fatigue assessments scores placed his physical function levels well below the average as compared to the general population. Evaluation of his occupational history inferred possible

exposure to molds and heavy metals. 24-Hr urine test showed Arsenic 1329 ug/24 hr, Mercury 25 ug/24hr, and Aluminum 125 ug/24 hr. Urine test was positive for mycotoxin derivatives -Trichothecene group 0.24 ppb and Gliotoxin derivative 0.93 ppb by ELISA.

Management and Outcome: The patient began treatment focused strengthening of antioxidative capacity and removal of environmental pollutant. The patient reported improvement in his symptoms shortly after starting treatment particular elevation of cognitive symptoms.

Discussion: Among common extrinsic toxins are asbestos, benzenes, pesticides, persistent organic pollutants, molds and food additives. Intrinsic toxins are produced as a result of digestive process and are metabolites of food, intestinal dysbiosis, yeasts, fungi, parasites. The mold-related illnesses presented with multisystem symptomology that we frequently observe in the patients with CFS with chronic inflammatory processes and a greater intensity of neurological symptoms. Toxic load affects immunoglobulins ratios, creates immune dysregulation, and increases risk for autoimmunity.

Conclusions: The case study detailed in this presentation highlights potential dangers associated with exposure to mixed molds and heavy metals, leading to multiple problems involving the central nervous system and the immune system, and leading to the debilitating chronic disease.

Low dose naltrexone in a case with Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS) and isolated liver enzyme elevation

Vera Nunez, M.[1, 2]
[1] College of Osteopathic Medicine, Nova Southeastern University, Fort Lauderdale, FL,
[2] Institute for Neuro-Immune Medicine, Nova Southeastern University, Fort Lauderdale, FL

Objective:
To present the case of a ME/CFS patient with Gilbert's Syndrome who developed an isolated ALT elevation during treatment with low dose naltrexone (LDN).

Case description:
A 34-year-old woman who two years prior had a syncopal episode, secondary to a 3rd degree atrioventricular block. She received a double chamber pacemaker implantation, complicated with cardiac tamponade. After recovering from this hospitalization, she felt constantly fatigued and started presenting diffuse joint and muscle pain, post-exertional malaise, cognitive changes, orthostatic intolerance and unrefreshing sleep. An extensive evaluation only found Raynaud's Syndrome, with a negative workup for autoimmune and infectious conditions. Her past history included environmental allergies, mononucleosis in her teens, and Gilbert's Syndrome with normal liver function tests.
On laboratory evaluation: normal blood cell counts, liver, kidney, adrenal and thyroid function. Her immunologic tests showed: low natural killer cell number and activity, elevated tumor necrosis factor (TNF) alpha (19.2pg/mL), TNF receptors I (569pg/mL) and II (865pg/mL), and interleukin (IL) 1a (16.1 pg/mL).
She was diagnosed with ME/CFS (by Fukuda criteria), and was started on antioxidant supplements and LDN 0.1mg/day, with slow titration. She tolerated LDN up to 1.5mg/day, with improvement in pain levels and sleep quality. Then, LDN was titrated to 4mg/day, further improving symptoms and immunologic parameters: TNFa (11.2pg/mL), TNF-RI (392pg/mL), TNF RII (684pg/mL) and IL1a (10pg/mL).
After one year, she had an isolated ALT elevation (43, then 77IU/L). Other liver tests were normal. Medications were reviewed and adjusted, without improvement. Upon holding LDN, her ALT slowly normalized, but with a relapse in joint pain, stiffness, and poor sleep. Treatment with Ganoderma lucidum (reishi mushroom) improved her symptoms, and ALT remained normal.

Conclusion:
LDN is used in the management of pain and abnormal inflammatory response in ME/CFS. Naltrexone is metabolized by liver glucuronidation and patients with Gilbert Syndrome have an impairment in this detoxifying mechanism. Scarce reports describe ALT elevation on regular naltrexone dosage (50mg/day), but to our knowledge, this is the first reported case of isolated ALT elevation with LDN in a Gilbert's syndrome patient. Treatment was successful, but monitoring is warranted, and alternatives like Ganoderma lucidum may be required.

Presenting author:
Vera Nunez, Maria, MD. [1] College of Osteopathic Medicine, and [2] Institute for Neuro-Immune Medicine, Nova Southeastern University, Fort Lauderdale, FL
Mailing address: 8501 SW 124th Ave, Suite 111A, Miami, FL 33183
Email address: mveranunez@nova.edu
Funding: None **Conflicts of interest**: None