# Navigating Chronic Fatigue with the Triad

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# My Background

- I am a practicing Naturopathic Doctor and also have a masters in Traditional Chinese Medicine (including herbal medicine studies)
- I have been practicing medicine since 2012 and started off with physical medicine focused practice
- I have been practicing with Gordon Medical Associates since 2021
- Majority of my patients have some variety of sensitivity response
- I have two young daughters and a miniature one acre farm

# Disclaimer

- Although I am a doctor by profession, for most of you, I am not YOUR doctor. All content and information in this webinar is for informational and educational purposes only, does not constitute medical advice, and does not establish any kind of patient-client relationship by your use of the information provided. Although I strive to provide accurate general information, the information presented here is not a substitute for any kind of professional advice, and you should not rely solely on this information. Always discuss any changes to your medical treatment with your medical provider.

# Presentation Overview

- Defining the Triad Syndrome and how it contributes to chronic fatigue
- How these syndromes are all interconnected and how they CAN progress into more complex/advanced disease
- Importance of identifying this arrangement of symptoms not only in chronic illness but in general wellness and prevention
- Foundations of treatment and support (Basic principles)
- Delicacy of treatment determination in sensitive patients (where do we start?!)
- Case studies and Questions!

# Defining the Triad

- Simply put this is a combination of syndromes:
  - Mast Cell Activation
  - Dysautonomia (including POTS)
  - Connective tissue disorders (including hypermobility and Ehlers Danlos)
- MAY progress to (or include) diagnoses of:
- Pentad additionally includes autoimmunity and gastroparesis (motility disorders in upper gut region)
- Septad additionally includes deeper structural pathologies such as Craniocervical instability and tethered cord along with chronic infections

# Mast Cell Activation

- Mast Cells are found in most tissues/organs of the body
- They are found in higher concentrations in our barriers to outside world (Skin, Airways, Gut, Blood Brain Barrier)
- They ideally function to participate in EARLY recognition of pathogens (and toxins)
- How they affect the rest of TRIAD:
  - Inflammation from mast cells have an adverse effect on collagen and hypermobility
  - Central nervous system and Vagus Nerve (autonomic) can be negatively signaled by mast cell inflammation
  - Mast cells can potentiate neuropathies including small fiber

# What is the Dysautonomia?

- Autonomic Nervous system is an UNCONSCIOUS regulatory system of our organs, glands and smooth muscle.
- Regulates the vital responses such as breathing, heart rate, blood pressure, digestion and sexual arousal
- Consisting of THREE parts:
  - Parasympathetic: rest/digest, feed/breed, generally a slower response
  - Sympathetic: fight/Flight OR freeze
  - Enteric Nervous System– "gut brain" communicates through both sympathetic and parasympathetic signals/ afferents that feedback to central nervous system
- The brainstem (cranial nerves III, VII, IX, X-VAGUS) or the sacral spinal cord (S2, S3, S4)primarily signal parasympathetic response through Acetylcholine
- Thoracic Nerves T1-L2/L3 signal the sympathetic nervous system

# Where do the Adrenals Fit In?

- Adrenals produce cortisol, aldosterone, adrenaline (epinephrine) and sex hormones (ie DHEA)
- Primary signaling from hypothalamic pituitary axis in central nervous system (HPA)
- Chromaffin cells receive signals from the sympathetic nervous system (splanchnic nerves) to produce adrenaline
  - Signaling is also dependent on acetylcholine
- Also regulate release of aldosterone—regulating sodium/potassium and blood pressure dynamics
- Cortisol helps to regulate inflammation response, blood sugar and arousal and is heightened with inflammation (infections, toxin illness) AND stress response/trauma

# Dysautonomia Presentation

- Symptoms including elevated heart rate, changes in blood pressure, dizziness/lightheadedness, passing out
  - Usually worse with body positional changes and when inflammation is worse
  - Postural orthostatic tachycardia syndrome (POTS) most common form
  - Leads to LOW Blood flow to core/head, low oxygen to brain leads to BRAIN FOG, lightheadedness and dizziness
- Blood pooling in abdomen and lower extremities, engorgement
  - Leads to increase in heart rate, increased adrenaline production (sympathetic)
- DEHYDRATION—kidneys think you are over hydrated due to pooling
  - "Aldosterone Paradox"
- Significantly worsened by chronic pain (increases sympathetic tone)
- Poor sleep can the cycle (result of and potentiator)
- Hypervigilance, easy to startle, sensory disturbances

# Common Structural Presentations

- Ligament Laxity (inborn or acquired)–
- Muscles have to work harder to stabilize joints as a result contributing to worsening fatigue
  - Beighton Score
- Easy to injure often presenting with repetitive injuries
- Can lead to early DJD (Degenerative Joints/osteoarthritis)
- Slower healing times
- Persistent pain (worsens fatigue)
- Cracking/popping regularly
- Intensive sleep disturbances make worse

# More Severe Presentations

- Often worse with accumulated inflammation and physical trauma
- Craniocervical Instability (Occiput/C1,C2)
- Cervicomedullary syndrome
- MALS (median arcuate ligament syndrome)
- High intracranial pressure-- reduces blood flow to pituitary gland (empty sella turcica syndrome)
  - Compression syndromes like Eagle
  - Neural inflammation (from infections, toxins)
- LOW intracranial pressure-- LEAKS (history trauma or lumbar puncture)-- worse upright, better laying down
- Tethered cord (in born or acquired from inflammation response)

# Treatment Principles

- Treat the person not the disease, the level one may need to intervene is different for each individual
- Recognizing elements of the Triad EARLY (the “soft signs”) may help with prevention and progression to complex chronic illness
- Manage pain and sleep disturbances and assure all possible foundational treatment is established at all phases
- Find, prioritize and treat the cause knowing the focal “causes” that need to address may change over time

# Mast Cell Support

- Treat the cause when you can but also there is a time to stabilize/palliate symptoms–
  - Mast cell activation can become a CYCLIC process
  - Reducing inflammation supports and protects collagen, gut barrier and autonomic nervous system among other tissues--
- Medications
- Herbs and natural substances (quercetin, luteolin, rutin, DAO, methylation support)
- Low histamine diet
- Brain retraining and stress management (including chronic pain): DNRS, Gupta, neurofeedback
- Possible Causes to treat:
  - Infections
  - Toxins
  - Emotional regulation and trauma

# Where do we start?

- Detailed history and physical examination can go a long way
- Assessing constitution of an individual, what might they be able to handle
  - We all have our resiliencies and adversities
- Assessing the entire terrain of the individual, what is working for and against them internally (and externally in their environment)
- Is there a precise algorithm or paradigm for the Triad?
  - NO! One may have to start with stabilizing mast cells in one person while stabilizing dysautonomia in another or working on structural integrity to allow their system to "accept" any treatment before they can treat causes of:
    - infection, toxin or trauma on the system
- Do not forget foundations of health including profound nutrient deficiencies and genomic influences on this system
  - Genetics and Epigenetics

# Sleep

- Sleep Study is helpful:
  - Sleep Apnea-- laxity of soft tissue in airways can worsen then when muscles relax during sleep
  - CPAP, reduce inflammation in airways (infections, allergens, food sensitivities)
- Non-restorative Sleep may be in part due to high sympathetic activity--
  - Persistent PAIN makes this worse
- Hypothalamic Pituitary dysfunction (thyroid, adrenal, growth hormone, sex hormones)

# Nutrition

- LOW insulin DIET but CAUTION since hypoglycemia is also common
- Salt and hydration (electrolytes) for POTS
- Carnivore (collagen/connective tissue support, low glycemic, does not work for everyone)
- Low histamine, whole foods, no processed
- Mindful of individual gastrointestinal issues, reduced parasympathetic tone (motility), food intolerances, Small intestine bacterial overgrowth
- Deficiency of water soluble and fat soluble vitamins

# Exercise/Movement

- **Graded exercise, emphasize weight/resistance training to strengthen muscles and stabilize joints
- Recumbent biking and exercising laying down FIRST
- Do this for prevention, do this for recovery, do this for sustainability of wellness
- Caution doing too much too soon in chronic fatigue as it may lead to PEM (Post Exertional Malaise/Exhaustion)
- Compression of lower extremity and abdomen for POTS

# Hormones

- **Woman higher risk than men due to estrogen/progesterone effects on laxity and mast cell signaling generally
- Thyroid dysfunction-- low T3 conversion is quite common and can clearly worsen fatigue
- Adrenal dysregulation very common and needs to be supported
- Insulin and blood sugar systems (PCOS more common)-- hypoglycemia very common

# Questions?

# thank you

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