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Fibromyalgia

Many women complain from constant fatigue and a slow pace of life. "I'm less active than my peers," "I struggle to drag myself out of bed," "I'm sad and find no rest in sleep or wakefulness," "I'm tired," and many similar phrases they've grown accustomed to saying and repeating.

Persistent fatigue has numerous causes. I certainly won't list them all here, but I will try to shed light on the most common one: fibromyalgia (or muscular rheumatism), explaining the alleged causal relationship between chronic fatigue and fungi in the digestive tract.

Muscles require energy to function. The energy currency of muscles is their store of ATP (adenosine triphosphate). Muscles accumulate these units of energy during rest, and to a lesser extent outside of it, to expend them generously during exertion. The higher the ATP level within a cell, the higher its fatigue threshold, and the greater its capacity to endure effort.

ATP is a molecule, and each molecule has its constituents. Among the most important constituents of ATP are magnesium and malic acid.

A deficiency in magnesium and/or malic acid mathematically equates to a decrease in ATP quantity. A shortage of ATP—that is, a depletion of the cell's energy reserve—means the cell cannot tolerate exertion. The clinical manifestations of this are a rapid onset of fatigue and exhaustion, along with their accompanying symptoms. This is fibromyalgia, or myofascial pain syndrome, or chronic fatigue syndrome.

Its Causes:

1. *Magnesium deficiency.*
2. *Malic acid deficiency.*
3. *Digestive malabsorption disorders.*

4. *Pathological overgrowth of fungi in the digestive tract.*

Magnesium and/or malic acid deficiency may be due ***to*** *inadequate dietary intake and/or malabsorption of these substances. Investigating insufficient dietary intake of magnesium and malic acid is a daunting and difficult task. The diet in our region is rich in its diversity.*

Magnesium is found in a wide spectrum of foods (spinach, nuts - especially almonds, hazelnuts, and walnuts, legumes, whole grains, dried fruits, and in some mineral waters). Rarely is anyone's diet devoid of at least one of these sources.

In contrast, malic acid is abundantly present in specific fruits (apples, pears, grapes) but not others. What is noteworthy is the aversion many fatigue-prone individuals have towards fruits in general, and apples specifically. This effectively deprives them of the primary source of this acid.

As for digestive malabsorption, I say: For some time now, I have been investigating malabsorption disorders in all their manifestations among fatigue-prone individuals, suspecting that the problem might lie here. My rationale for this is the richness of the local diet in energy-providing elements on one hand, and their reduced bioavailability at the cellular level on the other. I therefore hypothesized that the problem might stem from the inability of some individuals' digestive systems to adequately break down food into its constituent parts and subsequently absorb them.

Very often, we find explicit digestive complaints (such as Irritable Bowel Syndrome (IBS), abdominal bloating, rapid onset of fullness after eating, etc.). And almost invariably, upon careful patient questioning, we discover intolerance to certain foods like fatty foods, and an aversion to others such as fruits. These could be symptoms indicative of some degree of malabsorption.

The underlying cause behind digestive malabsorption could be a congenital deficiency in some digestive enzymes, an alteration in the intestinal flora favoring fungal overgrowth, or perhaps a convergence of both factors.

Pathological overgrowth of fungi in the digestive tract occurs due to prolonged, and often indiscriminate, oral antibiotic use. Female hormones, as well as oral contraceptive pills, increase its likelihood of occurrence in women compared to men. Some attribute the rising incidence rates to exacerbated psychological stress and repeated psychological trauma.

The ability of fungi to utilize sugars to produce tartaric acid—known for its muscle toxicity and its innate antagonism towards malic acid—further heightens suspicion regarding the sinister relationship between gastrointestinal fungi and fibromyalgia.

Clinical Manifestations:

1. ***Muscular Pain, Joint Pain:*** *A constant symptom; no patient is spared. It is a low-intensity, tolerable pain, generalized throughout the body. The most prominent tender points are the occipital region (base of the skull), between the shoulder blades, cervical area (neck), and the inner aspect of the knees (see* ***Figure 1****).*
2. ***Fatigue:*** *Also constant. Night and day, during movement and at rest, the patient feels bodily exhaustion and weariness. Fatigue worsens with routine daily activities. This often leaves psychological repercussions that burden the patient.*
3. ***Morning Stiffness:*** *Lasting more than half an hour. It is often expressed as cramping of the back muscles; specifically, between the shoulder blades.*
4. ***Sleep Disturbances:*** *Most patients complain of difficulty falling asleep and difficulty waking up. And between these states, they are constantly*

tossing and turning in bed. They frequently wake up and then attempt to sleep again, but often fail. Many suffer from breathing difficulties during sleep (sleep apnea episodes, snoring). In all cases, the patient wakes up tired, stiff, and feeling as if they spent the night doing hard labor.

5. ***Mood Disorders:*** *Also constant. The patient appears anxious, sad. This sadness may lead to a depressive state of varying severity.*

6. ***Gastrointestinal Disorders:*** *We find a wide spectrum of complaints (excessive gas, abdominal bloating/distension, rapid satiety/fullness, colon irritation, abdominal pain, etc.). I propose that these digestive complaints may precede fibromyalgia, rather than being a consequence of it.*

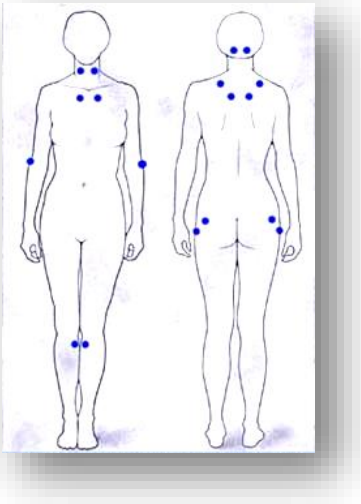

Figure (1):
Tender Points in Fibromyalgia

*There are **nine bilateral pairs**. The presence of **more than three bilateral pairs** is **considered diagnostic** for fibromyalgia.*
*Tender points are identified by applying **light pressure** with the **pulp of the examiner's thumb** to specific locations (blue dots).*

Management:

Based on this specific understanding of fibromyalgia, management has focused on the following points:

1. *Replenishing deficiencies in magnesium and malic acid to support cellular energy content (ATP).*
2. *Improving food digestion with enzyme concentrates to elevate the level of digestive absorption of energy-providing elements.*
3. *Combating gastrointestinal fungi with antifungals to restore balance in the structure of the intestinal flora.*
4. *Overcoming sleep disturbances.*
5. *Improving the patient's mood.*
6. *Alleviating musculoskeletal pain.*

Treatment Evolution Note:

Previously, antifungals were not part of my therapeutic plan for managing fibromyalgia pain. Nevertheless, patient improvement within a few days of treatment was the norm. However, symptom recurrence after 6-9 months of stopping treatment was frequently observed.

Currently, I aim for lasting recovery by incorporating oral antifungals (specifically Nystatin). Nystatin is a non-absorbable antifungal agent. It can be administered in high doses for extended periods (at least 3 months, and up to 8 months if seeking documented recovery) orally, without concern for the harmful side effects of antifungals on the patient's liver.

For objectives (5) & (6) – improving mood and gaining deep sleep plus muscle pain relief – I utilize low-dose tricyclic antidepressants. On one hand, I leverage their soporific/sleep-inducing effect. On the other, I utilize their central analgesic/pain-relieving effect. A dose of 25-50 mg of Amitriptyline, taken approximately one hour before bedtime for 3 months, can be beneficial in this regard.

Important Note: *Some patients cannot tolerate tricyclic antidepressants. In such cases, conventional sleep aids can be used as an alternative solution.*

In other contexts, you can also read the following articles:

- *DOI* *The Spinal Reflex, New Hypothesis of Physiology*
- - *The Hyperreflexia, Innovated Pathophysiology*
- *DOI* *The Spinal Shock*
- - *The Spinal Injury, the Pathophysiology of the Spinal Shock, the Pathophysiology of the Hyperreflexia*
- *DOI* *Upper Motor Neuron Lesions, the Pathophysiology of the Symptomatology*
- - *The Hyperreflexia (1), the Pathophysiology of Hyperactivity*
- - *The Hyperreflexia (2), the Pathophysiology of Bilateral Responses*
- - *The Hyperreflexia (3), the Pathophysiology of Extended Hyperreflex*
- - *The Hyperreflexia (4), the Pathophysiology of Multi-Response Hyperreflex*
- - - *The pathophysiology of Triple flexion Reflex*
- - *The Clonus, 1st Hypothesis of Pathophysiology*
- - *The Clonus, 2nd Hypothesis of Pathophysiology*
- *DOI* *The Clonus, Two Hypotheses of Pathophysiology*

- *DOI* *The Nerve Transmission through Neural Fiber, Personal View vs. International View*
- - *The Nerve Transmission through Neural Fiber (1), The Action Pressure Waves*
- - *The Nerve Transmission through Neural Fiber (2), The Action Potentials*

- *The Nerve Transmission through Neural Fiber (3), The Action Electrical Currents*
- *The Function of Standard Action Potentials & Currents*
- *The Three Phases of Nerve transmission*

DOI *Neural Conduction in the Synapse (Innovated)*

DOI *Nodes of Ranvier, the Equalizers*

- *Nodes of Ranvier, the Functions*
- *Nodes of Ranvier, First Function*
- *Nodes of Ranvier, Second Function*
- *Nodes of Ranvier, Third Function*
- *Node of Ranvier, The Anatomy*

- *The Wallerian Degeneration*
- *The Neural Regeneration*
- *The Wallerian Degeneration Attacks Motor Axons, While Avoids Sensory Axons*

DOI *The Sensory Receptors*

- *Nerve Conduction Study, Wrong Hypothesis is the Origin of the Misinterpretation (Innovated)*

- *Piriformis Muscle Injection_ Personal Approach*

- *The Philosophy of Pain, Pain Comes First! (Innovated)*
- *The Philosophy of the Form (Innovated)*
- *Pronator Teres Syndrome, Struthers-Like Ligament (Innovated)*
- *Ulnar Nerve, Congenital Bilateral Dislocation*
- *Posterior Interosseous Nerve Syndrome*
- *The Multiple Sclerosis: The Causative Relationship Between The Galvanic Current & Multiple Sclerosis?*
- *Cauda Equina Injury, New Surgical Approach*
- *Carpal Tunnel Syndrome Complicated by Complete Rupture of Median Nerve*
- *Biceps Femoris' Long Head Syndrome (BFLHS)*

DOI *Barr Body, The Whole Story (Innovated)*

- *Adam's Rib and Adam's Apple, Two Faces of one Sin*
- *Adam's Rib, could be the Original Sin?*
- *Barr Body, the Second Look*

DOI *Who Decides the Sex of Coming Baby?*

- *Boy or Girl, Mother Decides!*
- *Oocytogenesis*
- *Spermatogenesis*

- *This Woman Can Only Give Birth to Female Children*
- *This Woman Can Only Give Birth to Male Children*
- *This Woman Can Give Birth to Female Children More Than to Male Children*
- *This Woman Can Give Birth to Male Children More Than to Female Children*
- *This Woman Can Equally Give Birth to Male Children & to Female Children*

- *Eve Saved Human Identity; Adam Ensured Human Adaptation*

- *Coronavirus (Covid-19): After Humiliation, Is Targeting Our Genes*
- *Coronavirus (Covid-19): After Humiliation, Is Targeting Our Genes*

- *The Black Hole is a (the) Falling Star?*
- *Mitosis in Animal Cell*
- *Meiosis*

- *Universe Creation, Hypothesis of Continuous Cosmic Nebula*
- *Circulating Sweepers*

- *Pneumatic Petrous, Bilateral Temporal Hyperpneumatization*
- *Congenital Bilateral Thenar Hypoplasia*
- *Ulnar Dimelia, Mirror hand Deformity*

- DOI *Thumb Reconstruction Using Microvascular Second Toe to Thumb Transfer*
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08/07/2019