*Case Report*

*Research on Bioengineering and Biomedical science*

**Volume 1 | Issue 1**

# FIBROMYALAGIA MIMICS MENINGITIS

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**Submitted:** 12 Mar 2022 **Accepted:** 24 Mar 2022 **Published:** 26 Mar 2022

***Citation:*** *Farah HASHIM JABER BILAL, AKIL WALLI, Georges CHALOUHI, Sarah EL MUSTAPHA, Melissa KATRIB. (2022). FIBROMYALAGIA MIMICS MENINGITIS, Research on Bioengineering and Biomedical science. Vol: 1 | Issue: 1 | Pg: 01-03.*

## Background

Fibromyalgia, also called fibromyalgia syndrome (FMS), is a long-term condition that causes pain all over the body.
Symptoms of fibromyalgia:
As well as widespread pain, people with FMS may have
. increased sensitivity of pain
. fatigue
. muscle stiffness
. problems with mental process (known as fibro-fog), such as problems with memory and concentration.

## Case Presentation

This is the case of 63 years old female patient who presented to the emergency department for acute onset of severe headache, undocumented fever and blurry vision. Her pain started on the day of presentation; it was described as debilitating , severe in intensity, and associated with left sided weakness (but not hemiplegia).

Review of the system revealed a smoker, non-alcoholic lady with a chronic history of irritable bowel syndrome, treated conservatively. On the physical exam, she looked lethargic and anxious, without loss of consciousness. She was found to have, in addition to her symptoms, neck stiffness, with positive Kerning and Brudzinski signs.

The preliminary diagnosis of meningitis was made, and the following investigations were performed urgently: blood tests, pan cultures, lumbar puncture as well as brain CT scan. However, the results were surprisingly normal. First, lumbar Puncture was clear in aspect, free of any white blood cells, red blood cells or any pathogenic bacteria, with Glucose=77, Protein=0.44. Second, blood tests showed no signs of infection nor electrolytes disturbances: WBC=12.2 (Neutrophils=70.7%, Lymphocytes=25.5%), Hemoglobin=12.3, Platelets=252, CRP=9.6, Creatinine=0.68 (GFR:92.88), sodium=140, potassium=3.1, Chloride=106, CO2=24, Calcium=8.8, Phosphorus=3.6, Magnesium=1.95. Finally, the CT brain didn't reveal any signs of meningitis or encephalitis. It didn't show any signs of ischemia or hemorrhage as well. MRI and angio-MRI brain were also done on the same day and didn't show any abnormalities. The patient was started on antibiotics and was admitted to the intensive care unit for close monitoring.

On the next day, the patient was complaining of persistent symptoms which became more generalized, associated with back stiffness and epigastric pain and tenderness. Liver function tests, cardiac and pancreatic enzymes were drawn but were all negative; ALT=19, AST=27, GGT=16, Alkaline phosphatase=37, Bilirubin (total/direct) =0.3/0.1, INR=1, PTT=34, Lipase=33, Troponin=14.07. She underwent CT scan abdomino-pelvis which was clear. Further tests were ordered to rule out multisystemic disease such as TSH, Iron, Vitamin B12, Folic acid and ESR but they were within normal limits. Urine culture grew multisensitive Escherichia Coli, blood culture was negative. Upon further questioning, the patient mentioned a chronic history of anxiety and insomnia. She also reported that her mother was treated with muscle relaxants and antidepressants for chronic body aches.

Consequently, and because patient's physical exam revealed more than 11 tender points all over the 4 abdominal quadrants and the axial skeleton, and because all the investigations ruled out neurological disease, the diagnosis of fibromyalgia was made, and she was referred to a rheumatologist for medical and physical therapy.

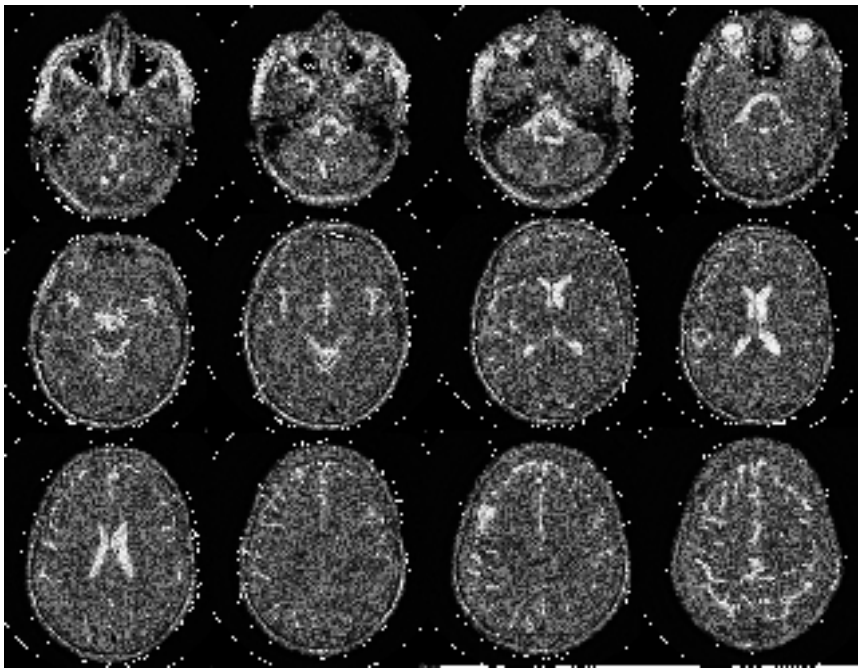

**Figure 1:** CT brain- Normal

## Conclusion

There are largely neglected aspects of FMS and overlapping syndromes that should be considered in the future investigations. These patients show abnormalities in a variety of systems like autonomic nervous system, immune system and musculoskeletal system. All these systems are highly dynamic, and their regulation is very intricate. As a result, not only the systems themselves, but also their interactions are characterized by a high degree of complexity. Studies to date have examined one or at best a few components of a single one of these systems and have largely ignored the dynamic processes occurring within the system and the myriad of interacting systems. It would be highly desirable for future studies to begin to address the complexity of these interactions in patients with FMS and other related syndromes.

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