Clinical Integration of Osteopathic Manipulative Medicine

Family Medicine: Fibromyalgia

Author: Zahava Hersh, OMS IV and Sheldon C. Yao, DO

Introduction: Fibromyalgia is a chronic pain disorder of unknown etiology characterized by widespread pain, abnormal pain processing, sleep disturbances, and psychological distress. Criteria for classification of fibromyalgia by the American College of Rheumatology is the presence of widespread pain for at least 3 months and pain on palpation in at least eleven of eighteen anatomic sites called tender points. Early Fibromyalgia is prevalent in 2% of the population, affecting an estimated 5 million adults. However, it affects women more than men at a 7:1 ratio. Furthermore, prevalence among women increases with age, reaching 7.4% among females who are 70-79 years old. Treatment of fibromyalgia includes both pharmacologic and non-pharmacologic methods. Manual modes of therapy such as OMT have been promoted as therapeutic options for chronic rheumatic diseases on a theoretical basis but have not been explored using controlled studies for treatment of fibromyalgia. Few studies however, have shown benefit to treating fibromyalgia with OMT.

Patient presentations:

- Widespread musculoskeletal pain
- Fatigue
- Cognitive and mood disturbances
- Headache
- Sleep disturbances

Differential diagnosis:

- Rheumatoid Arthritis
- Systemic Lupus Erythematosis
- Ankylosing Spondylitis
- Polymyalgia Rheumatica
- Sjogrens Syndrome
- Inflammatory Myositis

Clinical pearls and diagnostic tools:

- Fibromyalgia is a diagnosis of exclusion, described as pain that is not explained by another rheumatic or systemic disorder.
Pathogenesis is multifactorial and includes genetic predisposition, neurohormonal disturbances, alteration in central nervous system pain processing, autonomic dysfunction, and peripheral nervous system hyperirritability.

Fibromyalgia is the most common cause of generalized musculoskeletal pain in women aged 20-55 years old.

Commonly associated conditions include irritable bowel syndrome, painful bladder syndrome, and TMJ.

Standard treatment includes non-pharmacologic modalities including patient education, exercise, psychotherapy, OMT, relaxation techniques, and acupuncture as well as pharmacologic treatment with tricyclics (amitriptyline), SSRIs (duloxetine, milnacipran), or anticonvulsants (pregabalin).

**OMM Integration:**

Although the exact etiology of fibromyalgia is not well understood, this musculoskeletal disorder involves widespread pain in several body regions bilaterally including upper and lower extremities and paraspinal regions the presence of multiple tender points, among other symptoms. In a study by Russell Gambert et al it was found that OMT combined with standard medical care was more efficacious in treating FM than standard care alone. In the study manipulative treatments including a combination of counterstrain and other osteopathic modalities were performed in 15-30 minute sessions once a week to tenderpoints identified as troublesome by the patient. Treatment was individualized to the patient, and techniques used included myofacial release, muscle energy, soft tissue treatment, and craniosacral manipulation. The participants were assessed in several ways including measurements of various attributes of pain as well as assessment of activities of daily living and depression. Significant findings were found between the treatment groups on measures of pain threshold, perceived pain, attitude toward treatment, activities of daily living, and chronic pain attributes. In each of these areas the patients who received OMT in conjunction with standard medical care had more favorable outcomes.

Additionally the pathophysiology of fibromyalgia according to the American Osteopathic Association Annual Scientific Convention and Medical Education Conference is due to central and peripheral nervous system sensitization. Therefore a goal of treatment in fibromyalgia patients is to restore and improve the essential coordinated body functions including posture and motion, respiration-circulation and lymphatic drainage, metabolic efficiency, and neurological. OMT is helpful in improving all of these body functions since they each rely on the musculoskeletal system for their activities. Improving musculoskeletal system functions improves motion and improves other body functions as well. Treatments recommended by the AOA medical education conference include lumbosacral functional techniques, rib functional techniques, upper thoracic spine muscle energy, diaphragm myofascial release technique, cervical functional and counterstrain techniques, and TMJ muscle energy techniques.

**Osteopathic Structural Examination:**

- Presence of bilateral tenderpoints at the occiput, trapezius, supraspinatus, gluteal muscles, greater trochanter, cervical region, second rib, lateral epicondyle, and knee
- Ribs
- Diaphragm
- Cervical, thoracic and lumbar spines
- Sacrum
- Mandible and temporal bones

**Possible Treatments Options:**

- Counterstrain of various bilateral tenderpoints associated with Fibromyalgia
- Rib raising
• Myofascial Release
• Muscle energy
• Balance Ligamentous Tension (BLT)
• Facilitated Positional Release (FPR)
• TMJ treatments

Citations: