

PAIN MANAGEMENT IN FIBROMYALGIA

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Fibromyalgia is a very complex disorder that was first described in the medical literature as far back as the 17th century. Even today, many physicians question the existence of fibromyalgia. Since there are no laboratory tests that can confirm the diagnosis, it remains a poorly understood disorder that has been labeled as a “wastebasket” diagnosis. In 1987 the American Medical Association, as well as the World Health Organization recognized Fibromyalgia as a discrete clinical entity.

The pathophysiology of Fibromyalgia centers on a central pain processing disorder. The most marked abnormality associated with fibromyalgia is a low serotonin level. Serotonin is a neurotransmitter involved in pain perception, mood disorders, as well as sleep. Most studies involving low serotonin levels were derived from measuring levels of tryptophan, a precursor to serotonin; and 5-hydroxyindole acetic acid, a metabolic byproduct; in the cerebrospinal fluid of patients. Other studies report the presence of a substance P in the spinal fluid about twice the normal level. Substance P is a neurotransmitter released when axons are stimulated. The more Substance P available, the more sensitivity of nerves to pain. Studies involving the hypothalamic-pituitary-adrenal system indicate that this axis is partly regulated by serotonin levels. Since Fibromyalgia patients typically show low levels, this may also explain the hypothalamic-pituitary-adrenal dysfunction in these patients. Changes in this axis usually are associated with a low free cortisol in 24 hour urine measurements, insulin induced hypoglycemia with overproduction of pituitary ACTH, elevated cortisol in the evening, low level of growth hormone, and over stimulation of ACTH secretion leading to insufficient adrenal release of glucocorticoids. Nerve growth factor has also been documented to be elevated in the cerebrospinal fluid of patients with fibromyalgia. This is important since NGF enhances substance P production, thereby increasing sensitivity to pain.

The epidemiology of the disease usually affects up to 6% of the population including children. Women meet the criteria of Fibromyalgia four times more than men. There is little gender difference in children. When the disease strikes, it tends to be more severe in men. The typical age at diagnosis is between 20-60 years of age. There is no racial propensity in fibromyalgia. Fibromyalgia coexists with other conditions such as chronic fatigue syndrome, depression, dysmenorrhea, irritable bowel syndrome, myofascial pain syndrome, rheumatoid arthritis, systemic lupus erythematosus, tension/migraine headaches, TMJ disorders, thyroid dysfunction, and sleep disorders.

When it comes to making a diagnosis of Fibromyalgia, one must first exclude other conditions since no single x-ray or lab test can pinpoint this ailment. Since hypothyroidism shares many of the same symptoms, a Thyroid Panel should be ordered. Antinuclear antibodies are important in differentiating Fibromyalgia from conditions such as systemic lupus erythematosus. Rheumatoid factor should be

obtained to differentiate rheumatoid arthritis from Fibromyalgia. Finally the physician should obtain an erythrocyte sedimentation rate to rule out inflammatory diseases and polymyalgia rheumatica. Polymyalgia rheumatica is a myalgic syndrome that involves pain in the neck, shoulder and pelvic girdle. The syndrome has a dramatic response to corticosteroids. Patients with polymyalgia rheumatica have an elevated ESR, whereas, Fibromyalgia patients have a normal value.

The American College of Rheumatology has defined guidelines for diagnosis of Fibromyalgia. These guidelines are as follows:

- Pain in all four quadrants of the body for at least three months
- The presence of at least 11 of 18 specific tender pressure points without any referred pain. The 18 possible pressure points consist of nine pairs. There are four pairs of pressure points on the anterior of the body and five pairs on the posterior. On the anterior body the pressure points are at the fifth through seventh intertransverse spaces of the cervical spine, the pectoral muscle at the second costochondral junction and 2cm below the lateral epicondyle of the humerus. The posterior body points are at the base of the cranium at the insertion of the suboccipital muscles, at the upper border of the shoulder in the trapezius muscle, at the scapula where the supraspinatus muscle originates, in the upper outer quadrant of the gluteus medius, and just posterior to the prominence of the greater trochanter at the piriformis insertion.

Two prominent associated conditions deserve mention. The first is depression. It remains uncertain as to which came first similar to the “chicken or the egg”. It is unclear whether depression is a result of fibromyalgia or part of the disease process. Depression is usually treated with a regimen of selective serotonin reuptake inhibitors such as Prozac, Paxil, Zoloft, Luvox, Serzone, and Effexor. Studies involving women with Fibromyalgia indicate that Prozac and Effexor are effective and well tolerated. The second prominent associated condition is sleep disorder. These patients experience an unrefreshing sleep associated with morning fatigue. Medication such as Xanax, Ambien, Sonata, or Ativan may be helpful.

Treatment of Fibromyalgia does not only center on medication, but also involves physical therapy and use of trigger point injections. Any successful rehabilitation program should involve many modalities including a psychologist, physical therapist, and exercise physiologist. A combination of aerobic, flexibility and strength training has been shown to have beneficial effects on the symptoms of Fibromyalgia. Trigger point injections has resulted in a reduction of pain and an increase in range of motion and exercise tolerance. Long-term outcomes improve when trigger point injections are used together with physical therapy. There are a wide range of techniques used. They involve use of 1% Lidocaine or use of Botulinum Toxin A (Botox) and B (Myobloc). Corticosteroids are usually not recommended for trigger point injections in patients with Fibromyalgia.

In conclusion, Fibromyalgia is a multi-symptom, chronic pain condition that disrupts and impedes the lives of millions of people every day. The most effective treatment program is one where the patient and the doctor establish a partnership, with good communication and a well-defined treatment approach.

References

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