Dynamic Chiropractic

Fibromyalgia: Evidence-Based Nutrition and Lifestyle Management

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Fibromyalgia is classified as a rheumatic autoimmune disorder that affects between 3 and 6 million Americans. It is most commonly seen in women of childbearing years, but children, the elderly and men also can develop this disorder. The diagnosis of fibromyalgia requires that a patient experience widespread pain in all four quadrants of the body for at least three months' duration, along with tenderness at 11 or more of 18 specific "tender point" sites.

Ninety percent of fibromyalgia patients have jaw and facial tenderness that can produce temperomandibular joint dysfunction syndrome (TMJDS), and 50 percent of all fibromyalgia patients report sensitivities to odors; noise; bright lights; medication; and various foods. Other commonly noted symptoms include disturbed sleep patterns; fatigue; morning stiffness; depression; recurrent headaches; tender lymph nodes; bowel or bladder disturbances; sensitivity to heat or cold; anxiety; gastrointestinal disturbances; dizziness; occasional tachycardia; and environmental allergies. Many fibromyalgia patients also develop comorbid conditions such as irritable bowel syndrome, Raynaud's disease and TMJDS.

Possible Causes

Fibromyalgia is thought to be triggered by infections, physical trauma or other illnesses, such as lupus, rheumatoid arthritis or leaky gut syndrome.[1] With regards to leaky gut syndrome, epidemiological studies have shown that patients with functional gastrointestinal disorders, such as irritable bowel syndrome, frequently suffer fibromyalgia. In fact, evidence suggests that up to 60 percent of patients with functional bowel disorders suffer fibromyalgia. Conversely, 50 percent of fibromyalgia patients experience functional dyspepsia, and 70 percent suffer from irritable bowel syndrome. These digestive disorders can cause a leaky gut: Partially digested food matter and other foreign compounds leak from the gut into the bloodstream, triggering immune inflammatory reactions. This chain of events can produce a wide range of undesirable systemic effects on the body - including the aggravation of fibromyalgia, according to some authorities.[2] There is also a close relationship between fibromyalgia and chronic fatigue syndrome.[3]

Treatments

Conventional treatment for fibromyal-gia involves a combination of medications, along with a low-impact exercise program to improve fitness; stretching techniques to ease muscle tension; and cognitive therapy to reduce the impact of stress. As patients with fibromyalgia have been shown to have low serotonin levels, which may account for a tendency toward depression, tricyclic antidepressants drugs (such as amitriptyline) and serotonin reuptake inhibitors (such as fluoxetine) are commonly prescribed to elevate mood and improve sleep disturbances. Oral analgesics (such as aspirin, ibuprofen and acetaminophen) sometimes are prescribed to reduce pain.[1]

Nutrition and Lifestyle Management

A number of dietary modifications and nutritional supplements have been shown to be effective in the complementary management of fibromyalgia. In a controlled study, women with fibromyalgia were put on a vegetarian diet consisting of only raw food - primarily fruits; vegetables; nuts; seeds; legumes; and cereals (e.g., rolled oats). The diet contained some fermented foods, including a fermented yogurt-food made from oats, a fermented beverage made from berries, and several types of fermented vegetables, particularly cabbage. During the three-month trial, women following the therapeutic diet experienced a significant reduction in body weight; pain; morning stiffness; use of painkillers; depression; and the number of sore fibromyalgia points, compared with those who continued to follow their regular diets. This suggests that prostaglandin synthesis may be a contributing factor in fibromyalgia, as a high animal-fat diet encourages the production of prostaglandin series-2, which is known to promote swelling and pain in arthritis patients.[4]

As noted previously, low-impact endurance exercise (two 25-minute exercise classes, plus two educational sessions per week) resulted in immediate and sustained improvement in walking distance, fatigue and well-being in a group of fibromyalgia patients.[5] In another clinical trial involving fibromyalgia sufferers,[6] a 35-minute exercise program in a warm pool (once a week for six months, coupled with counseling sessions) also led to improvements in endurance, pain reduction, distress, depression and anxiety.

5-HTP

With respect to nutritional supplementation, several studies (preliminary and double-blind trials) have shown that 5-hydroxy-tryptophan (5-HTP) may be effective at reducing many fibromyalgia symptoms (depression; anxiety; insomnia; and body pains), when taken at a dosage of 100 mg, three times per day for 30 days. A natural constituent of the *graffonia simplicifolia* seed (native to Africa), 5-HTP is the immediate precursor to the synthesis of serotonin in the brain. Studies demonstrate that it crosses the blood-brain barrier and is an available substrate for conversion to serotonin, which elevates mood, modulates pain and produces other physiological outcomes. Note that if a patient is already taking medication to enhance brain levels of serotonin and/or other neurotransmitters (antidepressant drugs), it is contraindicated to recommend concurrent supplementation with 5-HTP (or melatonin or St. John's Wort), as this could result in serotonin syndrome, which can be life-threatening.[7-11]

SAMe

S-adenosylmethionine (SAMe) also has shown success in these cases. Because it participates as a methyl donor in many biochemical reactions, SAMe functions to help reduce inflammation and pain, and reduce depression by acting as a coenzyme in the natural synthesis of serotonin and other neurotransmitters. A six-week, double-blind study showed that patients receiving 800 mg of SAMe per day reported improvements in pain, fatigue, morning stiffness and mood, compared with the placebo group.[12] Another smaller, double-blind trial illustrated similar outcomes, prompting researchers to state, "SAMe seems to be an effective and safe therapy in the management of primary fibromyalgia."[13]

Note that in the body, SAMe is made naturally from the conversion of homocysteine to methionine, once homocysteine picks up a methyl group from vitamin B12 (this methyl group is originally obtained from folic acid). Methionine then picks up adenosine from ATP (adenosine triphosphate) to become SAMe. However, supplementation with SAMe appears to be beneficial in fibromyalgia patients, as well as certain patients afflicted with arthritis. In Europe, it is used to battle depression and anxiety disorders.

Melantonin

One study reported that patients with fibromyalgia had nighttime melatonin levels 31 percent lower than the control group, which may contribute to impaired sleep, fatigue and altered pain perception.[14] In a therapeutic trial, patients were given 3 mg of melatonin each day before bedtime. After one month, patients receiving the melatonin reported improvement in sleep, tender point count, and severity of pain at selected sites.[15]

Other Supplements

Many patients with fibromyalgia also report significant reduction in pain using a combination of magnesium (300-600 mg per day) and malic acid (1,200-1,400 mg per day). The mechanism of action in this case is yet unknown, but may involve reduced muscle tension.[16,17]

In patients with concurrent functional intestinal disturbances, it may be useful to include a full-spectrum digestive enzyme product. This can help prevent leakage into the bloodstream of partially digested food matter (especially tripeptides and dipeptides), which can trigger immune inflammatory reactions.[1]

A B50 complex also may be considered to help boost energy, and it is interesting to note that some studies have found low vitamin B1 (thiamine) levels and reduced activity of some thiamine-dependent enzymes among fibromyalgia sufferers.[18,19]

Alternative medicine practitioners also should be aware of the natural anti-inflammatory effects of herbal agents such as curcumin, boswellia, white willow extract and ginger. Supplements that combine these agents can be helpful in treating a variety of inflammatory conditions, and help reduce the patient's need for nonsteroidal anti-inflammatory drugs, which frequently cause gastrointestinal irritation; erosion; ulceration and bleeding; and liver and kidney toxicity.[1]

With respect to other therapeutic interventions, several open trials have demonstrated that chiropractic treatment (joint manipulation, stretching, soft-tissue massage and lifestyle counseling) improved sleep and reduced pain and fatigue in a high percentage of fibromyalgia patients. Overall, 50-60 percent of patients reported significant improvement in these parameters.[20-22]

Electroacupuncture

The use of electroacupuncture also has shown promising results. In one study, 46 percent of patients reported this intervention provided them with the best relief of symptoms compared to all other therapies they had tried, and 64 percent reported using less pain medication than prior to treatment.[23] Other trials using electroacupuncture also have demonstrated improvement in fibromyalgia symptoms.[24,25]

Conclusion

In summary, a number of complementary and alternative therapies, nutritional supplements and lifestyle modifications have been shown to be effective in managing a broad number of symptoms in patients suffering from fibromyalgia. Based on current research, alternative practitioners should consider using the most appropriate of these interventions to help patients afflicted with this bothersome, complex disorder. As most practitioners agree that fibromyalgia is a difficult problem to treat, they should embrace any interventions shown to be useful and safe in the management of

these cases.

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