PRIMARY CARE OPTOMETRY NEWS 5/1/03

New treatments available for dry eye symptoms of fibromyalgia

While this condition has no cure, its symptoms – including dry eye and pain in tender point sites – can be addressed.

Leonid Skorin Jr., OD, DO, FAAO, FAOCO

Although fibromyalgia is a common syndrome of chronic, widespread pain, its cause remains a mystery, and it can easily be confused with a host of similarly presenting conditions.

The syndrome of fibromyalgia consists of diffuse and chronic musculoskeletal pain, stiffness, focal tenderness, disordered sleep and fatigue. The pain tends to be constant, aching and concentrated in the neck, shoulders, back and pelvis, although points of tenderness may also be found in the upper and lower extremities. Even though this pai is concentrated in the musculature, patients may also complain of joint pain, probably because of the morning stiffne they experience. The pain is exacerbated by changes in the weather, cold, humidity, sleeplessness, stress and infections.

Making a diagnosis

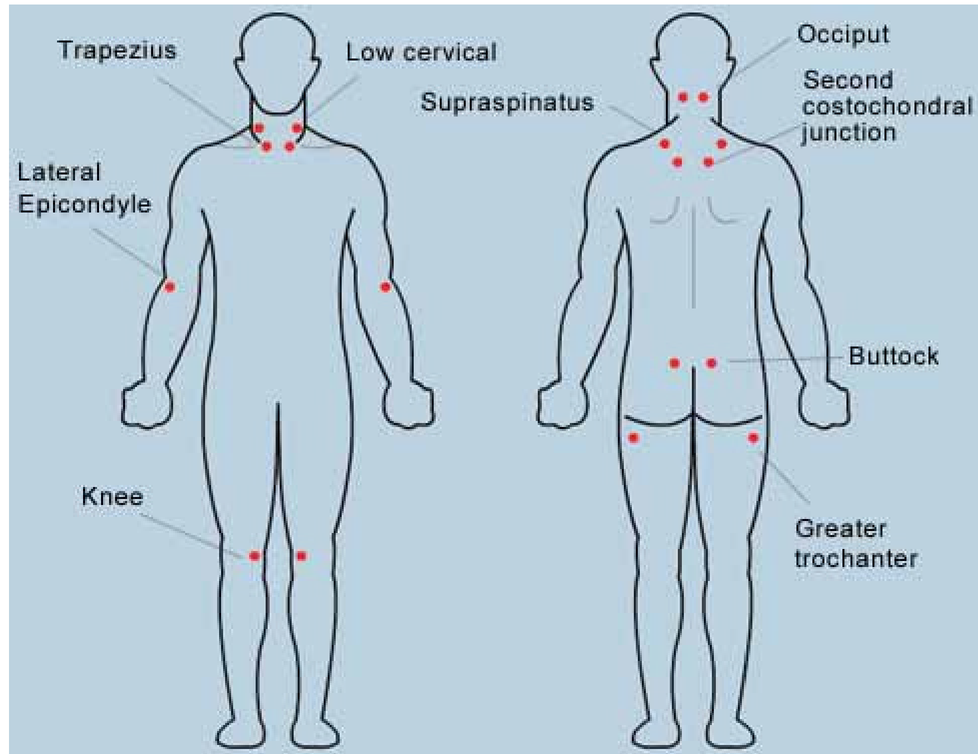
People with fibromyalgia report disturbed sleep, and most feel exhausted even after a night of sleep. They often awake feeling tired and unrefreshed, having experienced disturbances of stage 4 (non-rapid eye movement) sleep. Restless leg syndrome may accompany and contribute to this disruptive sleep.

To facilitate making an accurate diagnosis of fibromyalgia, the American College of Rheumatology established in 199 standardized criteria for classification of this disease. It includes a history of widespread pain lasting for at least 3 months and a physical finding of pain in at least 11 of 18 specified tender point sites. Both left and right sides of the body must be involved, and the pain must be present above and below the waist.

The 18 tender point sites must be tested with careful palpation. Compression over each site should be just strong enough to cause blanching of the examiner's fingertip. A positive response is found if the patient complains of exaggerated tenderness or outright pain. These patients experience a reduction in pain threshold (allodynia), an increased response to painful stimuli (hyperalgesia) and an increase in the duration of pain after the stimulation. Mild discomfort during palpation is a nonspecific finding that may be elicited in a host of other musculoskeletal conditions. This should not be confused with the deeper and intense pain elicited in patients with fibromyalgia.

Other than a careful history and physical palpatory examination, no other laboratory or radiologic testing is of value in diagnosing fibromyalgia. If laboratory tests are to be ordered, they should be done so as to exclude other similar clinical entities. An antinuclear antibody determination would be negative in fibromyalgia, but positive in lupus erythematosus. Both the rheumatoid factor (RF) and the sedimentation rate (ESR) should also be normal in fibromyalgia. Hypothyroidism can be ruled out by ordering thyroid-stimulating hormone (TSH) and thyroxine (T_4) tests When back pain is the predominant symptom, radiologic study of the spine or sacroiliac joints may be considered.

Tender Point Sites in Fibromyalgia



Lateral epicondyle	The tennis elbow sites, actually 1-2 cm distal to the epicondyle
Trapezius	The midpoint of the upper trapezius in a somewhat firm portion of the muscle
Supraspinatus	Above the scapular line, near the medial border of the scapula
Occiput	Posterior aspect of the head
Low cervical	At the anterior aspect of the intertransverse ligaments C4-5 or C5-6
Second costochondral junction	Close to the origin of the pectoralis major
Buttock	In the midportion of the outer quadrant of the buttock, in the anterior portion of the gluteus medius
Greater trochanter	Lateral aspect of the hip
Knee	In the fat pad medial to the knee

(From Wolfe F, Smythe HA, Yunis MB, et al. The American College of Rheumatology 1990 criteria for the classification of fibromyalgia. *Arthritis Rheum*. 1990;33:160-172.)

Typical patient

The typical fibromyalgia patient is an adult woman between 30 and 50 years of age. Women account for 80% to 90% of all cases. Prevalence increases with age and affects between 1% and 2% of the general population.

Even though fibromyalgia is a chronic disorder, it is also relatively nonprogressive. It can worsen with changes in the weather, increased stress and decreased rest. The number and location of tender points remain constant over time. Some patients may experience spontaneous remission, and older women seem to have less severe symptoms than their younger counterparts.

There is no cure for fibromyalgia. Therefore, consistent self-management with enhancement of functional capability is the most rational treatment approach. This includes integrating aerobic and stretching exercises and physical therapy with pharmacologic treatment. Narcotics should be avoided, and the use of mild analgesics encouraged. Tricyclic

antidepressants can be used for any significant sleep disturbances. They are thought to act on the serotoninergic and adrenergic biochemistry of central pain perception, sleep and depression.

Trigger point injections of lidocaine have been attempted. This has not proven highly successful because of the large number of tender point sites most patients have and the considerable amount of pain after each injection in so many locations, making the treatment as odious as the disease.

Dry eye in fibromyalgia

Patients with fibromyalgia also seem to have more dry eye complaints. In some cases, they have severe dry eye disease including Sjögren's syndrome. Recently, an Italian study found that 22% of patients with primary Sjögren's syndrome also had fibromyalgia (Ostuni P, Botsois C, Sfriso P, et al. Fibromyalgia in Italian patients with primary Sjögren's syndrome. *Joint Bone Spine.* 2002;69:51-57.). Primary Sjögren's syndrome patients have no other rheumatologic disease other than Sjögren's syndrome. They do have an increased risk of developing lymphoma. Secondary Sjögren's patients have another rheumatoid disease, such as arthritis, in addition to their Sjögren's.

Conditions Often Mistaken for Fibromyalgia

Myofascial syndromes	Trigger points clustered in one area, no fatigue or sleep disorder
Rheumatoid disease	Positive ESR and RF
Polymyalgia rheumatica	Elevated ESR, pain confined to hips and shoulders, few tender points
Ankylosing spondylitis	More common in men; sacroiliitis
Spondyloarthropathy	More common in men; single point tenderness
Chronic fatigue syndrome	Pain less prominent; few tender points
Lyme disease	Positive serology; tick exposure
Hypothyroidism	Elevated TSH, decreased T4
Somatization disorder	No tender points
Hypertrophic osteoarthropathy	No tender points; clubbing
Tendonitis	Localized pain

Eye muscle fatigue can also become a problem, especially in patients who have to do extended downgaze or perform intensive accommodative effort. Rest is usually the only treatment option for these patients.

Treatment options

Some new therapies may be of value to those patients with dry eye and fibromyalgia. The recently released Refresh Endura (Allergan) and TheraTears Liquid Gel (0.25% sodium carboxymethylcellulose, Advanced Vision Research) are conservative treatments for these patients. Refresh Endura is an emulsion of water, lubricants and castor oil and actually improves tear stability and lipid spreading. TheraTears Liquid Gel is recommended for use at bedtime, but may be used by patients with more severe dry eye symptoms, during the day. Systane (polyethylene glycol 400 0.4% propylene glycol 0.3%, Alcon) should also be available at your local pharmacy. It contains HP Guar, which binds to the hydrophobic ocular surface and crosslinks with borate in the solution, giving this product a more viscous gel-like consistency.

For patients with more severe dry eye symptoms, there are oral agents that contain essential fatty acid supplements (omega-3 and omega-6 oils). The three products available today for your patients include TheraTears Nutrition (Advanced Vision Research), HydroEye (ScienceBased Health) and Hydrate Essential (Cynacon/Ocusoft).

Although punctal occlusion with silicone plugs has been used for a while, a new acrylic polymer material that reacts with body heat to change shape after insertion is now available. This Smart Plug (Medennium) shrinks in length but expands in width to securely occlude the lacrimal canaliculus and leaves no segment exposed to the ocular surface.

Finally, the Food and Drug Administration has approved the long-awaited prescription cyclosporine ophthalmic emulsion, Restasis (Allergan). This medication is to be used in patients with moderate to severe dry eye. Because of its immunomodulatory effect, it will work best in those with an inflammatory component to their chronic dry eye disease.