FIBROMYALGIA. “What we should know about”

By Prof. Fahim Khan.

Fibromyalgia is a common and chronic disorder of unknown aetiology characterised by widespread pain and tenderness, abnormal pain processing, sleep disturbance, fatigue, and, often, psychological distress, as well as other symptoms. Although fibromyalgia is frequently grouped with arthritis-related conditions, there is no apparent inflammation or damage to the joints, muscles, or other tissues.

Data regarding the exact prevalence of fibromyalgia in the United States are limited. The estimated prevalence is 2%, affecting roughly 5 million adults (age ≥18 years), with women having a higher prevalence (3.4%) and incidence (80-90%) of this condition than men (0.5% and 10-20%, respectively). Although fibromyalgia most typically presents to physicians in women of middle age, the onset of various pain symptoms often occurs early in life, and the condition can present in either sex at any age. Multiple epidemiologic studies have demonstrated a strong genetic association with fibromyalgia. Implicated genes include genes involved in the serotonin and catecholamine pathways. Alterations in either of these pathways could alter pain sensitivity. Additional genetic markers have been identified through genome-wide scans.

A biopsychosocial model of fibromyalgia provides a useful framework for organization. A number of biologic variables have been identified, including genetics, female sex, age, poor sleep, trauma, deconditioning, autonomic dysregulation, chronic infection, abnormal nociceptive processing, and stress. Identifiable psychological variables include hypervigilance, feelings of helplessness, poor coping strategies, depression, anxiety, certain personality traits and styles (eg, neuroticism, perfectionism, or compulsive behaviour), and excessive pain behaviours. Environmental and sociocultural variables associated with fibromyalgia include family support, job satisfaction, childhood abuse, and family members or friends with chronic pain.

The pathophysiologic sequence of events that leads to the development of fibromyalgia is not well elucidated; however, a number of discrete cellular and biochemical abnormalities have been identified. The volume of abnormalities discovered in patients with fibromyalgia is high enough to substantiate the claim that it is not a subjective pain condition. When viewed collectively, these abnormalities suggest that fibromyalgia is a disorder of central sensitization or abnormal central processing of nociceptive pain input.

The pain associated with fibromyalgia is typically described as radiating diffusely from the axial skeleton over large areas of the body, predominantly involving the muscles and joints. Patients also present with various additional complaints. Fatigue and poor sleep are nearly universal. Cognitive problems ("fibro fog") produce

impairments in memory and thinking. Patients with fibromyalgia typically suffer for many years before diagnosis and sometimes receive unnecessary, expensive, or needlessly invasive procedures or medication before fibromyalgia is recognized.

A history of more than 3 months of diffuse musculoskeletal pain, along with the other symptoms like tiredness, fatigue, headaches, memory fog, restless legs syndrome, irritable bowel syndrome, poor sleep, pins and needles etc suggests fibromyalgia. Physical examination is helpful in confirming the diagnosis. Except for heightened tenderness and evidence of deconditioning, the examination usually yields normal findings. A tender-point examination should be performed at the start of the physical examination.

Fibromyalgia is a diagnosis of exclusion and patients must be thoroughly evaluated for the presence of other disorders that could be the cause of symptoms before a diagnosis of fibromyalgia is made. Patients must also undergo a thorough clinical and laboratory evaluation to identify alternative or coexisting diagnoses for chronic pain.

Although patients with fibromyalgia do not have characteristic or consistent abnormalities on laboratory testing, routine laboratory and imaging studies can help to rule out diseases with similar manifestations and to assist in diagnosis of certain inflammatory diseases that frequently coexist with fibromyalgia. Such tests include the following:

- Complete blood count with differential
- Metabolic panel
- Urinalysis

- Thyroid-stimulating hormone level
- 25-hydroxy vitamin D level
- Vitamin B12 level
- Iron studies, including iron level, total iron binding capacity, percent saturation, and serum ferritin level
- Magnesium level
- Erythrocyte sedimentation rate

  Antipolymer antibody assay:, May provide conclusive evidence for a subgroup of people with fibromyalgia; about 50% of fibromyalgia patients have antipolymer antibodies

Management

There is no cure for fibromyalgia, but education, lifestyle changes, and proper medications can help the individual to regain control and achieve significant improvement. Models of pain behaviour that interrelate biologic, cognitive, emotional, and behavioural variables form the basis for cognitive-behavioural and operant-behavioural approaches to adult pain management. Fibromyalgia in children responds to a combination of psychotherapy, exercise, relaxation techniques, and education. Pharmacotherapy is generally not indicated in children.

Patient Education

Education is an essential element in fibromyalgia management. It begins with an empathetic manner on the part of the physician, who must affirm the patient's pain, explore social and behavioural variables (both in childhood and current) that influence the illness, and explain to the patient how stress and distress can amplify the severity of symptoms. Scheduling time to provide this education at early visits can save time in subsequent visits.

Nonpharmacotherapy

The patient should be encouraged to foster self-efficacy, and healthcare providers should work to diminish dependence over time. Providers can help by teaching patients about the following:

- Diet (eg, promote good nutrition, vitamin supplementation, bone health, weight loss)
- Stress management
- Aerobic exercise (eg, low-impact aerobics, walking, water aerobics, stationary bicycle)
- Sleep therapy (eg, education/instruction on sleep hygiene)
- Psychologic/behavioral therapy (eg, cognitive-behavioural, operant-behavioural)

Physical Therapy/Physical Modalities

Exercise programs should start gently and progress gradually to endurance and strength training. Patients should avoid prolonged, overly strenuous physical exercise before reconditioning is established.

Aerobic and flexibility regimens

Daily aerobic and flexibility exercises may be an essential component of the fibromyalgia rehabilitation program. The goal of these exercises is for the patient to exercise safely without increased pain.
An exercise regimen should include the following considerations:

- Always start at low levels of exercise and progress slowly: Begin with gentle warm-up, flexibility exercises; progress to stretching all of the major muscle groups

- Low-impact aerobic exercise at least 3 times weekly
- Target exercise regimen: 4-5 times a week for at least 20-30 minutes each time; may take months to achieve

For patients who may never achieve the level of the target exercise regimen, encourage them to exercise at the highest level possible without worsening their symptoms.

Pharmacotherapy

Always combine pharmacologic and nonpharmacologic therapy in the treatment of fibromyalgia. Aggressively treat comorbid depression.

Medications used in the management of fibromyalgia include the following:

- Analgesics (eg, simple pain killers like Acetaminophen or tramadol)
- Antianxiety/hypnotic agents (eg, alprazolam, clonazepam, zolpidem, zaleplon, trazodone, buspirone, temazepam, sodium oxybate)
- Skeletal muscle relaxants (eg, cyclobenzaprine)
- Antidepressants (eg, amitriptyline, duloxetine, milnacipran, venlafaxine, desvenlafaxine)
- Anticonvulsants (eg, pregabalin, gabapentin, tiagabine)
- Alpha 2 agonists (eg, clonidine)
- Low dose Naltrexone

Sleep

Poor sleep worsens and perpetuates symptoms, so intensive treatment is indicated. Most patients understand little about the nature of sleep; therefore, instruct them on the basics of sleep and proper sleep hygiene. Providing this education is one of the most helpful interventions.

Medications that may prove helpful for sleep problems that do not respond to nonpharmacotherapy include the following:

- Antidepressants (eg, trazodone, SSRIs, SNRIs, tricyclic antidepressants)
- Anticonvulsants (eg, clonazepam, gabapentin, tiagabine)
- Nonbenzodiazepine hypnotics (eg, zolpidem, zaleplon, eszopiclone)
- Muscle relaxants (eg, cyclobenzaprine, tizanidine)
- Dopamine agonists (eg, pramipexole)

Other agents used in fibromyalgia may include the following:

- Vitamins and minerals
- Malic acid and magnesium combination
- Antioxidants
- Amino acids
- Herbs and supplements

Managing Flare-ups in Fibromyalgia

Patients should learn to identify the factors that trigger flare-ups (although, on occasion, no trigger can be identified) and what measures to take to decrease their symptoms. Tips for avoiding and managing flare-ups include the following:

- Treat infections quickly
- Avoid changes in diet
- Exercise as prescribed (ask patients not to increase their routine without consulting a physician)
- Moderate changes in activity
- Avoid unnecessary life changes
- Treat changes in mood or sleep early and aggressively
- Always start new medications at the lowest possible dose

- Prepare for unavoidable situations that have caused flare-ups in the past (eg, arrange for an increase in sleep medication or for help with housework and child care)
- Encourage patients to pace their activities and know their limits

Any latest treatments in Fibromyalgia?

Scrambler therapy "**Calmare Therapy"** in Fibromyalgia is widely used in the USA and it is also available in Ireland as a non drug treatment for pain relief.

Calmare Pain Therapy is a U.S. FDA 510(k)-cleared and European CE mark-certified pain therapy medical device to treat pain without the use of drugs,
a non-invasive, biophysical approach to chronic pain relief by transmitting a 'no-pain' message to the pain-producing nerve/s via painless surface electrodes applied to the skin consistently over a period of time and has been found to be very effective pain relief therapy in Fibromyalgia without the use of drugs or medications and in many other pain conditions including neuropathic pain.