RHEUMATOLOGY IN PRIMARY CARE

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CHAPTER - 7

FIBROMYALGIA

Shrikant Wagh

Fibromyalgia syndrome (FMS) is characterized by chronic generalized pains and associated with fatigue, sleep disturbances and cognitive impairment. It is the most common cause of generalized pain, affecting about 2% of population, and is 7-9 times more common in females. It can start at any age including childhood although most patients are 30-50 years old.

FMS is a disease of abnormal pain processing and perception. Even normal physiological sensations are perceived as pain due to decreased pain threshold. Many patients of FMS have psychological abnormalities but this is not a psychiatric disorder. It is not established whether the psychological aberrations induce disease or are due to the disease itself. Various abnormalities seen in FMS include abnormal sleep EEG, decreased blood flow in thalamus and other areas, low levels of serotonin and other neurotransmitters, abnormal hypothalamic-pituitary-adrenal axis and autonomic dysfunction. These multiple underlying mechanisms and overlap of various conditions make the disease difficult to understand and manage. Irritable bowel syndrome, upper abdominal pain, nausea, vomiting, esophageal dysmotility, migraine-headache, light-headedness, dizziness, non-cardiac chest pain, oral ulcers, hair loss, sun sensitivity, sicca symptoms, cystitis, dysmenorrhea, hypotension, and various other symptoms can be associated with FMS. It is a syndrome rather than disease due to multiplicity of symptoms. FMS may also be present as an overlap with rheumatoid arthritis, ankylosing spondylitis, systemic lupus erythematosus and other inflammatory connective tissue diseases (secondary forms).

Clinical Features

FMS can be triggered by stressors such as emotional stress, infection, trauma, surgery and other medical conditions. Symptoms may show waxing and waning during the course of disease. Disabling generalized musculoskeletal pain is the most important complaint. Patients are unable to manage routine household and/or office work due to pain and associated complaints. The pain may be described in various ways (ache, burning, soreness, stiffness,

etc), is present throughout the day and increases with exertion. Pain usually starts in axial areas of neck, shoulder or back and spreads to other areas later on. Low back pain may radiate to lower extremities. Pain may be migratory in nature. It is generally more severe than arthritis and patients perceive joints as swollen. Tenderness is a characteristic feature and even light touch is painful (hyperalgesia). Allodynia (painful response to non-noxious stimuli) may also be present. Pain catastrophizing (exaggerated negative evaluation of pain and its implications) is common. Pain may improve with warmth. Morning stiffness may be present and last for the whole day.

Fatigue is another important feature of FMS. This is usually associated with non-refreshing disturbed sleep with frequent awakening. Patient gets up feeling tired in mornings. Fatigue or exhaustion worsens with activity. All symptoms generally worsen with cold, overexertion, stress, anxiety, and damp weather. Pain and symptom severity are worse in women who have undergone hysterectomy with or without oophorectomy. It is possible that associated anemia and/or mineral deficiencies add to severity of FMS symptoms.

Anxiety and depression are common. Although major depression is uncommon, anxiety may turn into an obsessive-compulsive disorder. Cognitive impairment ('Fibrofog') in the form of loss of short term memory, lack of attention and difficulty in thinking is common in FMS patients.

Many FMS patients are hyper-responsive to other stimuli such as noises and odors. A cluster of various other somatic symptoms may be associated with FMS. Non-dermatomal paraesthesia, numbness and feeling cold are some of the features that may accompany pain, tenderness and fatigue. All these complaints put together lead to diminished quality of life (home, workplace and social relations), frustration and psychosocial stress.

The clinical examination is usually unremarkable except for the finding of diffuse tender areas in all four quadrants of body. FMS is a clinical diagnosis and there are no specific laboratory tests. Tests such as rheumatoid factor and antinuclear antibodies have very low predictive value in absence of definite clinical features. Such tests should not be ordered as they may lead to diagnostic confusion. Laboratory tests are usually carried out to rule out other conditions discussed under differential diagnosis.

CLASSIFICATION CRITERIA

American College of Rheumatology (ACR) developed classification criteria for FMS in 1990. These criteria implied chronic (more than 3 months) widespread

(axial-peripheral, right-left, upper-lower) pain and defined 18 points (Fig. 7.1) out of which 11 need to be tender on pressure sufficient to cause blanching of nail bed. These points (right and left) include the following: 1) Occiput (nuchal ridge) 2) Low (C 5-7) cervical 3) Supraspinatus 4) Trapezius - upper border 5) Second rib - pectoral muscle 6) Lateral epicondyle (elbow) 7) Gluteal - upper outer quadrant of gluteus medius 8) Greater trochanter 9) Medial fat pad of knee. ACR criteria are basically meant for research purposes and not for clinical diagnosis. 50% of clinically diagnosed FMS patients do not meet these criteria. The degree of tenderness, depression, anxiety, catastrophizing and control over pain varies from patient to patient. Further, the concept of tender points implies problem at these particular sites rather than widespread pain. Other important features such as fatigue and cognitive dysfunction appear to be neglected in these classification criteria. New diagnostic criteria - 2010 (Table 7.1) do not require presence of tender points but record number of areas in which patient had pain over previous week.

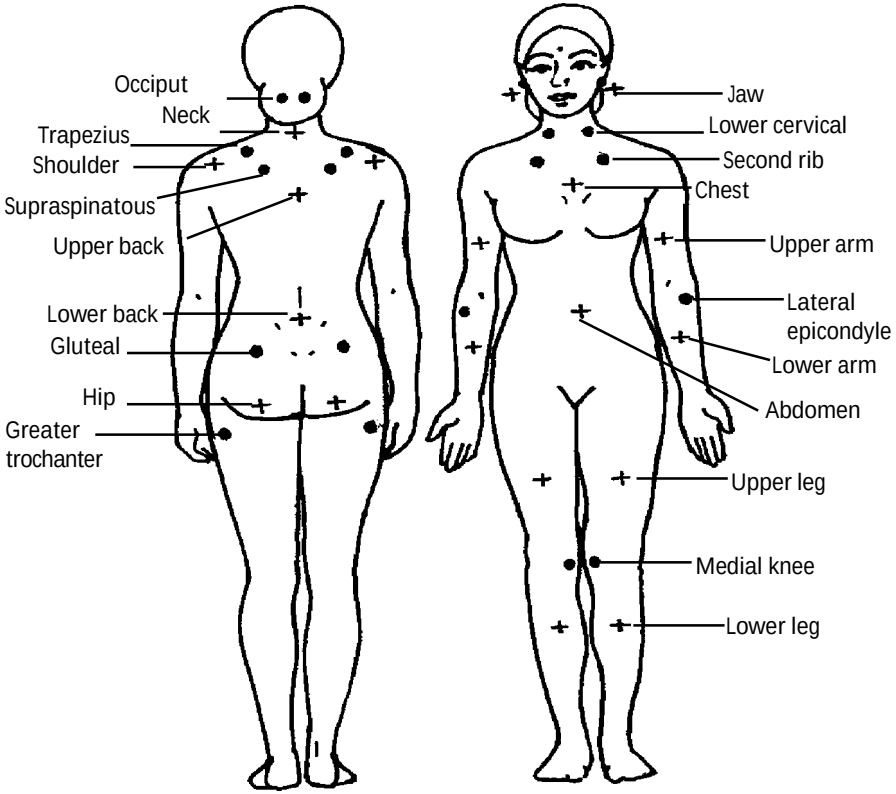

Fig. 7.1. Fibromyalgia points ACR □ = ACR Criteria (1990); + = ACR Criteria(2010)

Table 7.1 FMS Diagnostic criteria (ACR 2010)

1. Symptoms for at least 3 months
2. Absence of other disorder to explain wide-spread pain

WPI - Wide-spread Pain Index - Areas with pain (Total 19)

- Shoulder girdle, upper arm, lower arm, hip, upper leg, lower leg, jaw (2 each - right and left)
- Neck, upper back, lower back, chest, abdomen features (1 each)

Each area counted as 1

SSSS - Symptom Severity Scale Score - Features

1. Fatigue
2. Waking unrefreshed
3. Cognitive symptoms

Each feature counted as 0 (absent), 1 (Mild), 2 (Moderate) or 3 (Severe)

Diagnosis is established if

i) WPI >7 + SSSS > 5 OR ii)WPI = 3-6 + SSSS > 9

DIFFERENTIAL DIAGNOSIS

Labeling a patient with FMS must be a very careful and cautious decision as this diagnosis has serious potential to increase illness behavior. Various conditions can cause generalized pain (Table 7.2). These should be excluded by selected laboratory investigations such as complete blood count, ESR/CRP, hepatic and renal function tests, blood sugar and thyroid function tests. Other tests may be carried out in selected cases to rule out specific suspected diagnosis. It is better to avoid too many investigations. 'Red flags' such as fever, weight loss, joint swelling (synovitis), skin rash, lymphadenopathy, muscle weakness, abnormal gait, and history of malignancy indicate a serious underlying disease that must be suitably investigated.

Table 7.2 Causes of generalized pain

1. Flu and many other viral infections including HIV and Hepatitis C, post-viral infection myalgias.
2. Anaemia, hypothyroidism, osteomalacia, diabetes mellitus, hyperparathyroidism.
3. Depression, anxiety and other psychiatric disorders.
4. Rheumatologic disorders - systemic inflammatory connective tissue diseases
5. Neuropathies and myopathies.
6. Drugs - Statins, fibrates, anti-malarials.
7. Multiple myeloma and metastatic cancers.

Soft tissue rheumatism at multiple sites (tendonitis and bursitis) may mimic FMS. These can be easily identified by clinical examination (Chapter 9).

Chronic Fatigue Syndrome (CFS) is a well-defined disease with new onset fatigue of more than 6 months duration which is not a result of ongoing exertion and which is not relieved by rest. There is significant overlap between CFS and FMS as many patients have both disorders simultaneously. Incidence of CFS is equally high. CFS is also accompanied by myalgia, arthralgia, new headache, non-refreshing sleep, sore throat, painful lymph nodes, post-exertional malaise and cognitive dysfunction. These associated features appear after the onset of fatigue. CFS leads to in substantial reduction in personal, educational, occupational and social activities. Onset may be precipitated by a stressful event or a flu-like illness. Symptoms tend to fluctuate although most patients remain functionally active.

Polymyalgia rheumatica (PMR) is an idiopathic disorder common in people over 50 years of age. It is characterized by generalized pain and stiffness more severe in neck, low back, pelvic and shoulder girdle muscles. Polyarthritis, prolonged (more than 1 hour) morning stiffness, fever, fatigue, malaise, and weight loss usually accompany pain. Giant cell arteritis (inflammatory vasculitis of medium and large size vessels) is a related disease and may develop together with PMR. A thickened, nodular, tender temporal artery is a typical finding that must be looked for in suspected cases. ESR is usually raised and patients respond dramatically to glucocorticoids.

Benign Joint Hypermobility Syndrome (BJHS) is another common condition leading to generalized pain. BJHS is a disorder of joint laxity without joint instability. Females are affected more often than males. Joint hypermobility is advantageous in activities such as gymnastics, swimming, yoga, and dancing. There is usually a strong familial tendency as the disease is supposed to be an inherited connective tissue disorder. Generalized hypermobility is also seen in genetic disorders such as Marfan's syndrome, Ehlers-Danlos syndrome and osteogenesis imperfecta. Joint pains after unusual physical activity is a common complaint and may be associated with back pain. Recurrent sprains, ligament tears, meniscus injuries and joint dislocations are common in these patients. Hypermobility diminishes with aging though it may lead to secondary degenerative joint disease following repetitive trauma. Joint hypermobility is established by Beighton Score which includes 1) Apposition of thumb to the flexor surface of forearm 2) Dorsiflexion of > 90^0 at fifth metacarpophalangeal joint 3) Hyperextension of >90^0

(Fig. 11.3) at elbow 4) Hyperextension of > 90^0 at knee (Fig. 7.2) and 5) Ability to place palms flat on floor without bending knees (Fig. 7.3). Marfanoid habitus, skin striae, hyperextensible thin skin, abnormal scarring of skin, drooping eyelids, myopia, antimongoloid slanting eyelids, varicose veins, hernia, uterine and rectal prolapse, and mitral valve prolapse are minor criteria that may be observed in these patients.

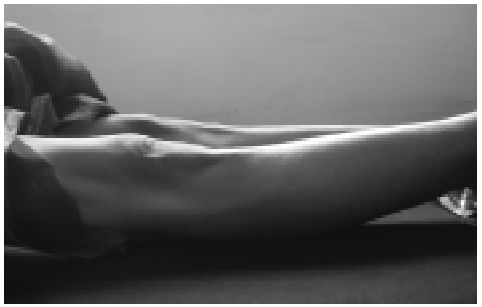

Fig. 7.2. Knee hyperextension

Fig. 7.3. Palms flat on floor

MANAGEMENT

FMS is a chronic disorder. Therapy can improve symptoms and quality of life in the short term though long term outcome remains far from satisfactory. Most patients continue to be symptomatic even after 6-8 years of treatment. Patient information and education are, therefore, essential components of management. Gaining trust of the patient during initial visits is important in management of such cases. Patients must be reassured that this is not a crippling or deforming disease and adequate pain control can be achieved with proper drugs and coping strategies. Treatment aims at enabling patients to have a positive attitude and gain control over their life with self-help. Individualized treatment generally scores better in these patients. Patients with milder symptoms will eventually learn to live with the disease. Early diagnosis and appropriate management by primary care physicians can lead to resolution of symptoms in almost 50% cases.

Tramadol and paracetamol have been recommended for pain relief in FMS. Pain does not respond well to NSAIDs or glucocorticoids. These drugs as well as strong opioids should be avoided. Antidepressants (amitryptylin, duloxetine, etc) reduce pain and improve function. Antidepressants should

be started in a low dose which can be titrated up later for adequate symptom control. Antiepileptic drugs such as gabapentine and pregabalin are also recommended for FMS. Dose of each drug must be adequate for control of symptoms. Drug switching or combination may be tried in non-responsive cases.

Exercise and cognitive behavioral therapy (training of skills that improve coping with the illness) have been shown to be beneficial in management of FMS. Aerobic exercises reduce pain, fatigue and depression and improve quality of life as well as physical fitness. Exercise must be prescribed as a 'drug' in all cases of FMS. It is better to start low and build up gradually for any exercise program. Yoga program has also been shown to be effective in reducing pain and improving quality of life of these patients.

Adequate sleep should be ensured with appropriate tranquilizers and other measures. Difficult cases of anxiety and depression should be referred for psychiatric management.

Safe complementary therapies such as heat (balneotherapy), homeopathy and massage may also be tried. There is no point arguing against these therapies if the patient feels better with their use. These can be combined with standard drug management as well as with other complementary therapies.