

Chronic widespread pain and fibromyalgia syndrome

Michael Shipley

Abstract

Chronic widespread pain and fibromyalgia syndrome (FMS) are disorders of pain regulation with central sensitization. Several tender trigger points define FMS, but now a composite of pain for >3 months affecting four of five specified body areas, and a raised widespread pain index and symptom severity scale score for – fatigue, waking unrefreshed and cognitive symptoms is used. Other symptoms commonly reported include depression, anxiety, headache, migraine, diffuse abdominal pain with changes of bowel habit (irritable bowel syndrome) and urinary frequency. This is sometimes called polysymptomatic distress. The pathogenesis of these syndromes is not clear, but hyperexcitability of the central and peripheral nervous systems, changes in function of pain receptors, altered pain perception and somatization have been hypothesized. There is functional magnetic resonance imaging evidence of altered pain and increased activity in brain areas that code for the sensory intensity of stimuli. These conditions impair quality of life but are not life-threatening. Many patients are grateful for an explanation and a diagnosis of their distressing symptoms, which may previously have been dismissed, or passed from one doctor to another. Patient involvement in treatment-planning is itself therapeutic, and winning the patient's confidence is an important starting point in any management strategy. The evidence base for treatment strategies is improving.

Keywords Chronic fatigue syndrome; chronic widespread pain; cognitive behavioural therapy; coping strategies; fibromyalgia; graded exercise programmes; MRCP; sleep disturbance; tricyclic antidepressant agents; trigger point tenderness

Classification

The terms chronic widespread pain (CWP) and fibromyalgia syndrome (FMS) are often used interchangeably, but patients with FMS represent a subgroup of those with CWP. Compared with other forms of CWP, fibromyalgia has been better investigated, and management strategies are more evidence-based. There is an overlap with other chronic conditions including chronic fatigue syndrome (CFS; also called myalgic encephalitis).

FMS was first hypothesized in 1970s by Hugh Smythe¹ to define and study a group of patients in whom pain was the main complaint but who had little objective evidence to explain their persistent and distressing pain. Terms such as ‘fibrositis syndrome’ and neurasthenia had previously been used. These

Michael Shipley MA MD FRCP is an Honorary Consultant Rheumatologist at University College and King Edward VII Hospitals, London, UK. Competing interests: none declared.

Key points

- Chronic widespread pain and fibromyalgia are a challenge to patients and their advisers
- Earlier diagnosis and intervention is likely to reduce the long-term impact for patients whose condition becomes overwhelming and dominates their life; however, recognizing those at risk and treating them early and appropriately remains challenging to healthcare professionals and healthcare systems
- Early diagnosis and treatment reduce the use of healthcare services
- Exercise and improved fitness are worth encouraging, and cognitive behavioural programmes are also helpful
- Medications to control pain and improve sleep are useful
- Although there is an improving evidence base for treatment strategies, treatment is ideally individualized
- A positive, multidisciplinary approach is appropriate and helps some but not all patients

patients were often labelled as ‘psychological’ and relatively ignored by the medical profession. The finding that these individuals showed more tenderness than usual at several key trigger points (Figure 1) enabled a definition of FMS for use in research.

When first proposed, FMS was controversial, and for some the diagnosis remains so. In clinical practice, it is important to remember that these chronic syndromes are often diagnoses of exclusion, and other important causes of pain and fatigue should be considered. The need to examine for trigger points is less now that new criteria exclude them in favour of pain for >3 months in four of five specified body areas, a raised widespread pain index and a high score on a symptom severity scale for other common symptoms – fatigue, waking unrefreshed and cognitive symptoms.

Pathogenesis

The pathogenesis of these syndromes is not clear, but hyperexcitability of the central and peripheral nervous systems, changes in function of pain receptors, altered pain perception and somatization have been hypothesized. There is a strong familial trend for FMS and related chronic conditions, particularly hypermobility syndrome now called hypermobile Ehlers–Danlos syndrome (hEDS or EDS3). Changes in the balance between nociceptive neurotransmitters and factors such as serotonin, dopamine and norepinephrine which control pain perception and mood contribute to the development of chronic pain.

FMS has been described as an ‘afferent processing disorder’.² There is functional magnetic resonance imaging evidence of increased activity in the regions of the brain coding for the sensory intensity of a stimulus in the fibromyalgia subset of CWP. When a

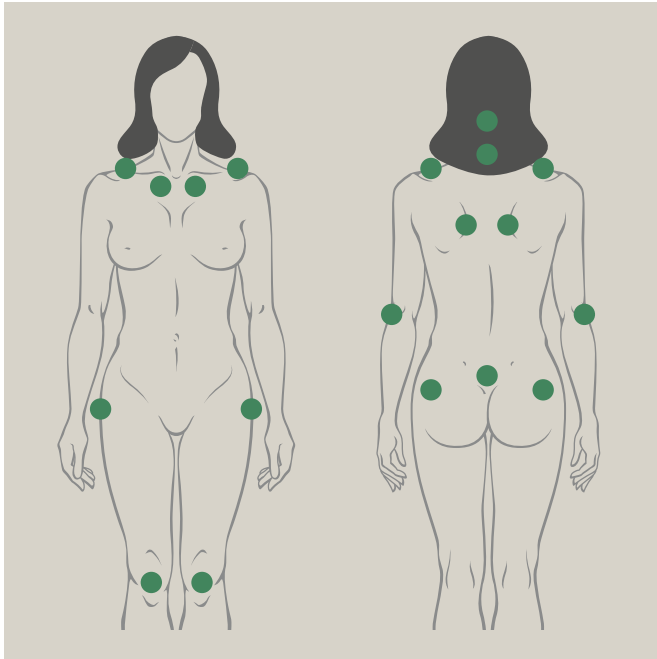


Figure 1 The trigger points that, when tender, are used to define fibromyalgia syndrome.

patient with FMS is also depressed, the amygdala and anterior insula, which code for the affective processing of pain, are also affected. Much higher pain stimulation is needed to produce similar effects in normal individuals. In FMS, symptoms such as dizziness, palpitations and sleeplessness can reflect abnormal autonomic nervous system functions. Reduced efficacy of descending pain inhibitory mechanisms has been demonstrated in FMS.

Dopamine plays a role in endogenous pain inhibition, and dopaminergic neurotransmission appears to be abnormal in fibromyalgia. Patients demonstrate an impaired dopamine response to pain, suggesting a role for dopaminergic agents in FMS. Loss of this descending filtering function for sensory input because of low concentrations of dopamine may contribute to pain amplification, hypervigilance and sleep disturbance in fibromyalgia.³

Clinical features

CWP and FMS are common, affecting 2–5% of the adult population in developed countries. CWP is the cardinal feature of FMS. Other symptoms reported commonly by patients with FMS include sleep disturbance, fatigue, depression, anxiety, memory loss and problems with cognition, headache, migraine, diffuse abdominal pain with changes of bowel habit (irritable bowel syndrome (IBS)) and urinary frequency. This is sometimes called polysymptomatic distress.

The 1990 American College of Rheumatology (ACR) criteria for FMS were used in clinical research and practice, and were updated in 2010 (Table 1). Newer revised criteria were published in 2016 but have not been finally agreed.⁴ In clinical practice, CWP is defined as ‘pain lasting >3 months that affects both sides of the body both above and below the waist, including some part of the axial skeleton’. Many patients with CWP report sleep disturbance and chronic fatigue.

Some individuals describe a precipitating cause for their symptoms, such as an injury, a viral illness or stress at work or at home. Social isolation and having no one to talk to about their pain worsen the symptoms. Depression and anxiety are commonly present and become part of a vicious circle. A subgroup of hypermobile individuals also complain, in addition to the usual symptoms and signs (see chapter xxx), of CWP and fatigue. This complex with other features is usually called joint hypermobility syndrome (Ehlers–Danlos type 3 (EDS3), more recently hEDS). Patients can be very severely disabled and often require referral to a specialist for management of their pain, fatigue and joint instability. There are few outward signs of the conditions, and people often look well but feel awful.

Patients with CWP or FMS are often distressed by the lack of understanding and sympathy they experience from family, friends and healthcare professionals. Making a positive diagnosis of FMS, CWP or CFS helps many patients to cope. It must be stressed that these conditions are not life-threatening and do not cause irreversible damage, but it is important to acknowledge the profound impact that symptoms can have on quality of life and activities of daily living, relationships and work.

Management

A biopsychosocial construct is best for the syndromes and their management. Although many patients are loath to consider a primary psychological cause for their symptoms, most agree that their pain and low mood may be linked, with mental and physical symptoms exacerbating each other. A sympathetic approach that combines a discussion about the possible physical changes in the muscles and central nervous system with an open and frank discussion concerning the stress and distress they cause is best but can be time-consuming. Managing these patients appropriately reduces visits to general practitioners by affected individuals, as well as overall economic demands on healthcare systems.

Many patients are grateful for an explanation and a diagnosis of their distressing symptoms, which may have been dismissed or passed from one doctor to another. They often come to recognize that they are regarded as ‘difficult’ or ‘heart-sink’ patients. Many understand the concept that, in CWP and FMS, sensitization of central pain pathways has developed such that even innocuous stimuli, such as usually pleasant music or gentle touching, have become painful and distressing (allodynia). Individuals with severe sleep disturbance often recognize the relationship between a poor night and worsening of their symptoms. It is often best to be realistic but positive: pain and other symptoms that have been present for years may not fully disappear, but, with patience and some effort by the patient, improved function and coping are worth working for. Winning the patient’s confidence is an important starting point in any management strategy.

A recent evidence-based set of recommendations for management of FMS has been produced in Europe.⁵ Although the size of effect of most treatments is relatively modest, it is clear that the evidence for treatment is improving. A careful assessment of patients’ pain, its impact on their day-to-day life and its biopsychosocial context are a prerequisite. The complex of potential associated symptoms should be discussed. Specific aspects to be

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