

가

Fibromyalgia

Dong Kuck Lee, M.D.

Department of Neurology, School of Medicine, Catholic University of Daegu

- Abstract -

The majority of patients who present with muscle pain does not have a definable myopathic disorder in the usual sense, despite intensive evaluation. Currently, most of these individuals are diagnosed with the syndrome of fibromyalgia, a condition that has been discussed under a number of different names for approximately a century. Fibromyalgia is a form of nonarticular rheumatism characterized by widespread musculoskeletal aching and stiffness, as well as tenderness on palpation at characteristic sites, called tender points. The American College of Rheumatology in 1990 set criteria for the diagnosis of fibromyalgia as that includes at least 3 months of widespread pain and the presence of at least 11 of 18 specific tender points on examination.

Key Words : Fibromyalgia, Tender points

3 (stiffness)
 (tender point)

2. (regional), (comcomitant)

가 가 (myofascial pain syndrome)

1.

4 3056 - 6
 가
 TEL) 053 - 650 - 4267, FAX) 053 - 654 - 9786, e - mail) dklee@cuth.cataegu.ac.kr

3. 17 (muscular rheumatism) 1904 Gowers

fibrositis Kellegren 1938 (fascia)

myofascial pain syndrome, fibrositis, myofasciitis, tension myalgia, fibromyositis, muscular rheumatism, tension rheumatism, aches and pains syndrome, generalized rheumatism nonarticular rheumatism 가

가

1975 Moldofsky fibrositis 1976 Hench fibromyalgia 1981 Yunus 50 (psychogenic)

4. (Table 1) 가

1 ~ 10% 2 ~ 4% 5 ~ 20%

1995 Wolfe 3000 3.4%, 0.5% 가

가 60 7%가 가

가 가 10 ~ 20% 40 ~ 50

6 ~ 7 가

5. (Table 2, Fig. 1) 가

Table 2. Symptoms in fibromyalgia syndrome⁶

Symptoms	Frequency(%)	
	Mean	Range
Musculoskeletal		
Pain at multiple sites	100	100-100
Stiffness	78	76-84
“Hurt all over”	64	60-69
Swollen feeling in tissue	47	32-64
Nonmusculoskeletal		
General fatigue	86	75-92
Morning fatigue	78	75-80
Poor sleeps	65	56-72
Paresthesia	54	26-74
Associated symptoms		
Self-assessed global anxiety	62	48-72
Headaches	53	44-56
Dysmenorrhea	43	40-45
Irritable bowel symptoms	40	30-53
Self-assessed global depression	34	31-37
Sicca symptoms	15	12-18
Raynaud’s phenomenon	13	12-18
Female urethral syndrome	12	9-17

Table 1. Age, sex, race, and symptom duration in fibromyalgia in several selected series⁶

	Yunus et al(n=113)	Goldenberg(n=118)	Wolfe et al(n=293)	Combined+(n=524)
Mean age(yr)	40	43	49	44
Females(%)	94	87	89	90
Whites(%)	98	92	93	94
Duration of symptoms(yr)	7	5	NR++	6

+Results are based on the mean values of the three series, ++NR = not reported.

가 , , ,

18

(Fig.

2) 가 11
88.4% 81.1%

(Table 3).

(Table 4).

75%

(morning stiffness)

(paresthesia),

가

(dysmenor-

rhea),

(urinary urgency)

가 가

6.

4 kg/cm²

1 kg/sec

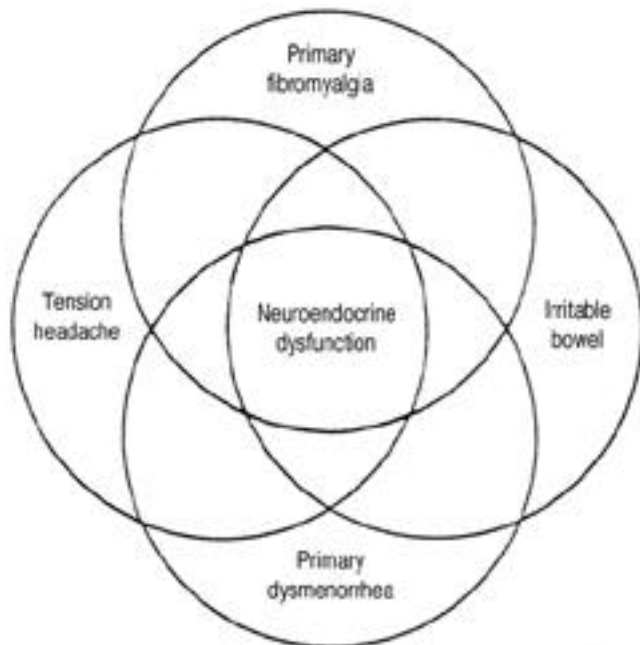


Figure 1. Fibromyalgia, irritable bowel syndrome, tension-type headaches, and primary dysmenorrhea share many overlapping features, e.g., predominant or exclusive female sex, absence of peripheral pathologic findings, and a current lack of any specific laboratory tests. Neuroendocrine dysfunction may be the most important pathogenic factor common to all of these syndromes⁶.

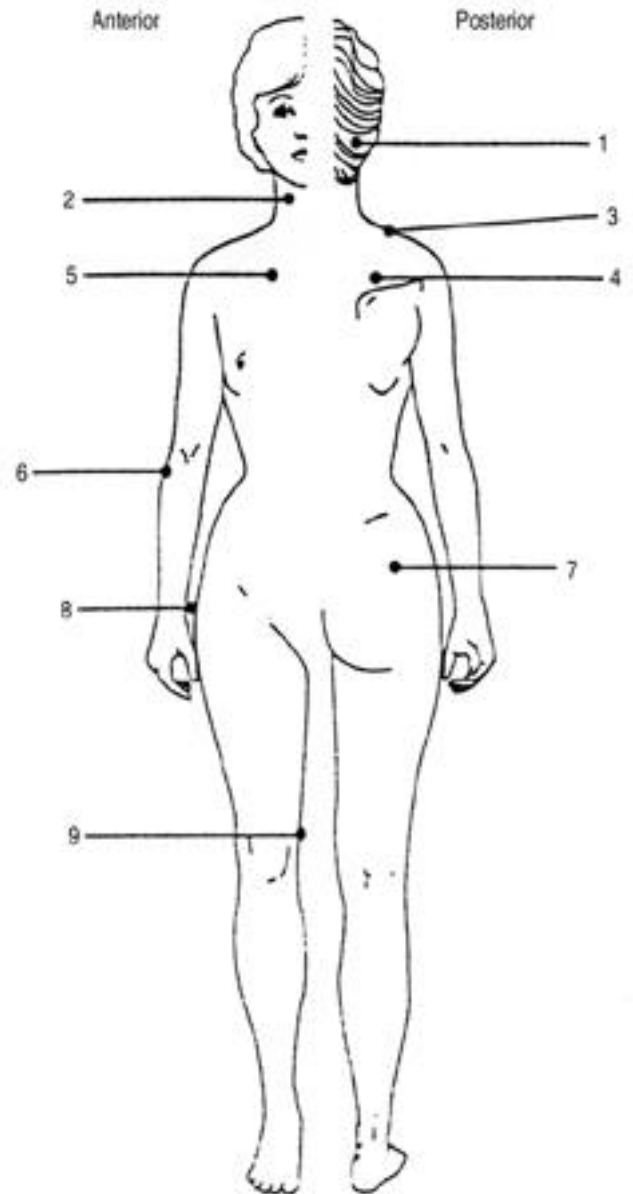


Figure 2. Location of nine bilateral tender point sites. 1=suboccipital muscle insertions; 2=cervical, at the anterior aspects of the intertransverse spaces at C5-7; 3=trapezius, at the midpoint of the upper border; 4=supraspinatus, at the origin, above the scapular spine near the medial border; 5=second rib, at the costochondral junction; 6=lateral epicondyle, 2cm distal to the epicondyle; 7=gluteal, in the upper outer quadrant of the buttock; 8=greater trochanter, just posterior to the trochanteric prominence; 9=knee, at the medial fat pad proximal to the joint line⁶.

7. (Table 5)

가 , CPK
 가
 10%
 가
 가
 가
 (desaturation) 가
 delta theta
 가
 가
 somatomedin C 가

8. (Table 3, Fig. 2)

가 18 3 11

9. (Table 6)

가
 가

10.

MMPI 1/3
 가

Table 3. *Diagnosis criteria for fibromyalgia*⁵

- A. History of widespread pain involving both sides the body and areas above and below the waist, as well as the axial skeleton
- B. Pain on digital palpation in at least 11 of 18 tender points, including bilateral:
 - 1. Anterior
 - a) Anterior aspect of the intertransverse spaces of C5-7 level
 - b) Anterior second rib region, near the costochondral junction
 - c) Elbow region, 2cm distal to the lateral epicondyle
 - d) Knee, at the medial fat pad proximal to the joint line
 - 2. Posterior
 - e) Occipital area at the suboccipital muscle insertion
 - f) Trapezius muscle, midpoint of upper border
 - g) Supraspinatous, above the scapular spine near medial border
 - h) Upper outer quadrant of the buttock muscle in anterior fold of gluteal muscle
 - i) Greater trochanter, just posterior to the trochanteric prominence

Table 4. *Physical signs in fibromyalgia syndrome*⁶

Positive Findings	Negative Findings*
Multiple tender points	Absent joint swelling
Skin fold tenderness	Normal range of motion of the joints
Cutaneous hyperemia	Normal muscle strength+
Reticular skin discoloration	Normal sensory functions
Diffuse puffiness of fingers(rare)	Normal reflexes

* The findings described may be abnormal due to a concomitant disease, e.g., arthritis or neuropathy.
 + Reduced maximum voluntary muscle strength by isokinetic dynamometer has reported.

Table 5. *Laboratory tests in fibromyalgia syndrome*⁶

Abnormal tests*	Normal tests+
	Complete blood count
	Erythrocyte sedimentation rate
	Muscle enzymes
Sleep EEG studies	Thyroid function tests
Neuroendocrine tests	Rheumatoid factor
	Antinuclear antibodies
	Radiographs ; bone scan
	Electromyography
	muscle biopsy

*No laboratory tests having a satisfactory sensitivity and specificity are currently available in fibromyalgia.
 +Several tests listed as normal may be abnormal if a concomitant disease is present, e.g., rheumatoid arthritis or hypothyroidism.

Table 6. Presenting features of fibromyalgia with confounding diagnosis and key points of differentiation⁶

Presenting Features	Confounding Diagnosis	Absent in Fibromyalgia
Joint pain and subjective swelling	Arthritis	Object joint swelling
Diffuse muscular aching and stiffness	Polymyalgia rheumatica	ESR, Hb, weight loss
Muscle fatigue, weakness	Myopathy, muscle enzyme	Objective weakness
Fatigue, sensitivity to cold, muscle pain	Hypothyroidism	T ₄ , TSH
Back pain/stiffness	Ankylosing spondylitis	Sacroiliitis
Sciatica-type pain	Disc herniation	Neurologic and radiologic findings
Chest pain	Cardiac or pleural pain	Typical history of cardiac pain, pleural rub, ECG, chest film, or laboratory findings of intrathoracic disease

ESR=erythrocyte sedimentation rate; Hb=hemoglobin; TSH=thyroid-stimulating hormone; ECG=electrocardiogram

20%
가
3

35%

가

가

11.

(Fig. 3)

가

가

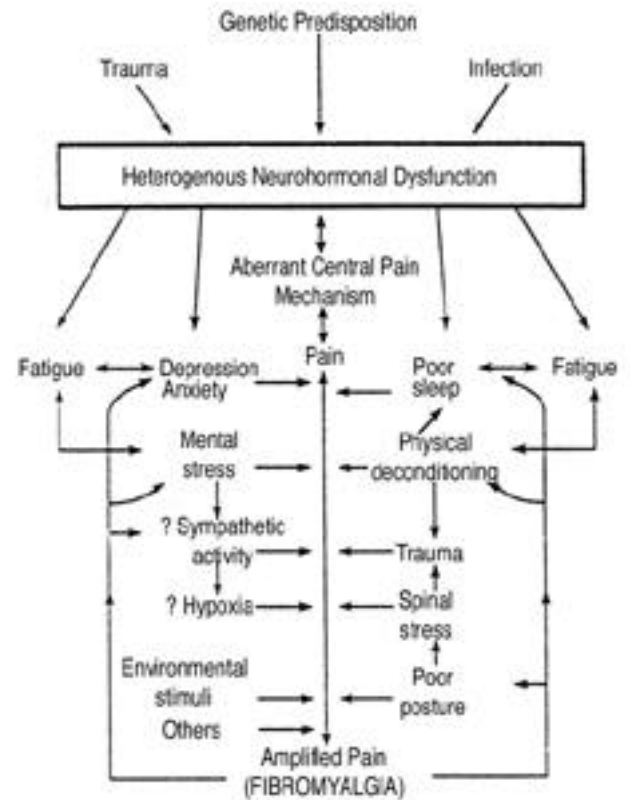


Figure 3. Probable pathophysiologic mechanism in fibromyalgia syndrome(FMS), showing various interacting factors. The most important mechanism in FMS most likely involves neurohormonal dysfunctions⁶.

12.

가

가

ketamine

amitriptyline(10 ~ 75 mg/

) cyclobenzaprine(10 ~ 30 mg/)

가

fluoxetine

Table 7. Comparison of various features of fibromyalgia syndrome(FMS) and myofascial pain syndrome(MPS)^{4,6}

	FMS	MPS
Sex	Predominantly female	Male and female
Age	Age 40-60 years primarily	All
Mediation	Substance P	Endorphin
Duration	Chronic	Acute or chronic
Twitch response	Absent	Present
Pain areas	Nonradiating	Distinct reference zones
Etiology	Internal, environmental	Generally mechanical
Prognosis	Guarded	Good with elimination of perpetuating factors
Musculoskeletal pain	Widespread	Regional
Tender points	Multiple, widespread	Few, regional
Referred pain	+	++
Taut band	Similar to normal controls	Similar to normal controls
Twitch response	Probably similar to normal controls	Similar to normal controls
Fatigue	++++	++
Poor sleep	++++	++
Paresthesia	+++	++
Headaches	+++	++
Irritable bowel	++	+
Swollen feeling in tissue	++	+

+ = 24% or less; ++ = 25%~49%; +++ = 50%~74%; ++++ = 75%~100% of patients

가
 prednisone,
 , phenothizines,
 가
 가
 12
 가
 (biofeedback),
 가
 13.
 가
 (remission)
 10
 가
 3 ~ 5
 가
 14. (Table 7)

Table 7

1. Adams RD, Victor M, Ropper AH. *Principles of neurology*. 6th ed. McGraw-Hill, 1997;1494-1495.
2. Cartilidge NEF, Al-Kakim M, Bradley WG. Disorders of bones, joints, ligaments, cartilage, and meninges. In: Bradley WG,

:

- Daroff RB, Fenichel GM, Marsden CD. *Neurology in clinical practice*. 2nd ed. Boston: Butterworth Heinemann. 1996;1820-1821.
3. Griggs RC, Mendell JR, Miller RG. *Evaluation and treatment of myopathies*. Philadelphia: F.A. Davis company, 1995;395-398.
 4. Inbody SB. Pain syndromes. In: Rolak LA. *Neurology secrets*. 2nd ed. Philadelphia: Book Promotion & Service co., LTD. 1999;250-251.
 5. Kissel JT, Miller RG. Muscle pain and fatigue. In: Schapira AHV, Griggs RC. *Muscle diseases*. Boston: Butterworth Heinemann. 1999;41-47.
 6. Yunus MB. Fibromyalgia syndrome and myofascial pain syndrome: clinical features, laboratory tests, daignosis, and pathophysiologic mechanisms. In: Rachlin ES. *Myofascial pain and fibromyalgia*. Boston: Mosby. 1994;3-24.