Undetected Fibrositis in Primary Care Practice

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The prevalence of symptoms related to fibrositis was investigated for patients seen in a primary care setting. Of 692 adult patients evaluated, 33 (4.6 percent) had symptoms of unexplained, chronic, diffuse muscular pain. Only three patients had been diagnosed as having fibrositis by their physician. Eighteen of 31 patients had symptoms sufficiently severe to interfere with their ability to perform their job or household chores. The percentages of these patients who met the fibrositis criteria ranged from 17 to 55 percent. These results suggest that unexplained, diffuse muscular aching is a common problem, that it is rarely diagnosed, and that the use of several criteria to define fibrositis excludes many patients with the typical primary symptoms.

Fibrositis is a rheumatologic condition characterized by complaints of diffuse aching, pain, or stiffness in muscles or joints.[1,2] The symptoms are frequently associated with multiple tender joints upon examination,[1–5] and they may be modified by factors such as weather, temperature, activity level, and stress.[3–5] Several nonrheumatologic conditions, for example, sleep disturbance, bowel complaints, and headaches, are common in patients with fibrositis.[1–5]

Fibrositis is considered primary if no known underlying cause is found and laboratory and radiographic tests cannot demonstrate a cause for symptoms. It is called secondary if the symptoms develop following trauma or are found in association with another condition such as osteoarthritis, rheumatoid arthritis, connective tissue disease, or hypothyroidism.

Little information is available about the importance of fibrositis in patients presenting to the primary care physician. Most epidemiologic studies of fibrositis have been conducted in rheumatologic practices. The frequency of primary fibrositis as a presenting complaint in rheumatologic practices has been estimated to be 2 to 6 percent by Epstein and Henke,[6] 3.7 percent by Wolfe and Cathey,[7] and 20 percent by Yunus et al.[3] The discrepancies between these studies result in part from the less restrictive criteria utilized in the Yunus et al study.

Information on the prevalence of fibrositis in a nonrheumatologic setting has been obtained in one study by Campbell et al.[4] These authors found that 3.7 percent of 596 patients in general medical and medical subspecialty clinics other than rheumatology met their criteria for fibrositis. This percentage may indicate the percentage of patients who have fibrositis in a primary care setting, although the presence of other illnesses and the criteria used to diagnose fibrositis may affect these results.

The purpose of this investigation was to estimate the frequency of unexplained, chronic, diffuse muscular pain in primary care practice and to evaluate how the presence of this pain relates to the criteria for fibrositis.

METHODS

From May 15, 1986, to June 11, 1986, nurses in a family practice clinic were instructed to give all adult patients a five-item questionnaire to screen for possible fibrositis. The questionnaire was used to identify patients with symptoms that met the following criteria: (1) symptoms of aching and stiffness in more than one muscle or joint, (2) symptoms lasting more than three months, (3) symptoms not the result of injury, and (4) symptoms not diagnosed by a physician as rheumatoid or osteoarthritis.

During the period of the study there were 1,372 patient visits recorded and an estimated 1,083 different patients seen. Six hundred ninety-two subjects (418 women and 274 men) completed the questionnaire for a completion rate of 64 percent. The completion rate seemed to be determined by the extent of nurse involvement in the study. During a one-week period when the nurses were frequently reminded to provide the patients with a questionnaire,

Submitted, revised, June 23, 1987.

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TABLE 1. REASONS FOR EXCLUDING SUBJECTS FROM STUDY

	Number Excluded	Number Remaining
Following screening questionnaire	474	218
Following telephone interviews		
Not reached by telephone	28	190
Unwilling to participate	10	180
Older than 70 years	43	137
Did not fulfill screening criteria	22	115
Reported one or two joints with osteoarthritis or radiologic findings	38	77
Other causes for symptoms	23	54
Diabetic neuropathy		
Hypokalemia		
Severe Crohn's disease		
Cerebral palsy		
Muscular dystrophy		
Electrolyte imbalance		
Psychological problem		
Cerebrovascular accident		
Bursitis		
Tendinitis		
Thyroid disease without replacement		
Following physical examination and chart review		
Other causes for symptoms	21	33
Renal abscess		
Colitis		
Osteoarthritis		
Tendinitis		
Vascular disease		
Hot, swollen joint		

TABLE 2. A DESCRIPTION OF THE PRINCIPAL AREAS EXAMINED FOR TENDER POINTS

Fibrositis areas
- Occiput: 2 cm below occipital crest, 1 cm lateral to midline
- Intertransverse ligaments: posterior to transverse processes, C4–6
- Trapezius: midpoint of upper border
- Paraspinous: 3 cm lateral to midline at level of midscapula
- Second costochondral junction: upper border of second rib just lateral to costochondral junction
- Elbow: 1 to 2 cm distal to lateral epicondyle over or distal to insertion of finger extensors
- Lumber spine: immediately lateral to area over interspinous ligaments L4–S1
- Gluteus: upper half of midgluteus medius
- Medial knee: between joint line and adductor tubercle

Control areas
- Forehead: midline just below scalp line
- Forearm: volar aspect midforearm
- Thumb: over thumbnail with thumb placed on table
- Shin: over boney prominence of midshin

the completion rate was 76 percent of 311 patients. On the least hectic day of that week, the completion rate was 100 percent of 64 patients.

Of the 692 patients who returned the questionnaire, 218 indicated musculoskeletal complaints that were not caused by an injury occurring in more than one area for at least three months. The number of subjects included in each stage of the screening process are shown in Table 1. One hundred eighty of the subjects were contacted by telephone. The telephone interview provided detailed information about the nature, location, cause, and previous diagnosis of the subject's symptoms. If, based on the telephone interview, the subjects met the original screening criteria and they were between the ages of 21 and 70 years, they were asked to come in for an interview and a physical examination.

During the examination subjects were again questioned about previous diagnoses and positive laboratory or radiologic findings and tests. The charts in the Family Practice Clinic were then searched for diagnostic findings that could account for their symptoms including results of radiologic, complete blood count, latex fixation, antinuclear antibody, and thyroid studies. Based on the interviews, physical examination, and medical records, 33 subjects met the criteria for this study.

All subjects participating in the study completed a comprehensive questionnaire. The questionnaire was used to identify demographic information, severity of illness, duration of symptoms, maximum symptom-free interval, modulating factors, sleeping problems, and presence of aching and stiffness on awakening. To determine the severity of the musculoskeletal symptoms, the patients were asked whether the symptoms interfered with their home chores or job. Patients responding yes to either of these questions were considered to have severe symptoms. The patient was asked about 18 possible modulating factors including the effect of fatigue, exercise, and cold weather. Possible sleep disturbance was evaluated by questions asking whether the patient frequently has trouble falling asleep, wakes frequently during the night, wakes early, has no energy during the day, or wakes with aching or stiffness.

The subjects were examined for the presence of tender points in 18 locations commonly affected in fibrositis patients[3,4] as well as seven control areas (Table 2). Tender points were defined as isolated areas no more than a few millimeters in diameter that are very sensitive to pressure. Locations as close as 0.5 cm to the tender point were much less sensitive. The examination was performed by applying firm pressure to the areas described in Table 2, beginning away from the designated tender point location and working toward this location until the patient indicated by words, expression, or movement away from the examining finger that a tender point was reached. If no

TABLE 3. CRITERIA FOR FIBROSITIS IN ADDITION TO CHRONIC, DIFFUSE, UNEXPLAINED MUSCULAR ACHING

Author	Symptom Criteria
Yunus et al[3]	At least 5 tender points in 40 areas tested and 3 of the following minor criteria: symptoms modulated by physical activity, weather, anxiety or stress; poor sleep; fatigue or tiredness; anxiety; chronic headaches; irritable bowel syndrome; subjective swelling; numbness; or 3 or 4 tender points and at least 5 minor criteria
Campbell et al[4]	Morning aching or stiffness; tired most of the time; symptoms modulated by at least 2 of the following: heat, weather, emotional upset or noise. At least 12 tender points in 17 areas tested
Smythe,[1,2] as modified by Wolfe et al[5]	Nonrestorative sleep, morning stiffness; at least 7 tender points in 14 areas tested
Liberalized criteria	Waking with aching or stiffness; difficulty with sleep or lack of energy; no minimum number of tender points

tender point were reached, the next area was then examined.

The patient was asked to rate the discomfort produced by the pressure at the tender point site on a scale from 0 to 10, with 0 indicating no pain and 10 indicating very severe pain. Ratings 1 to 3 were recorded as mild, 4 to 6 as moderate, and 7 to 10 as severe. If the classification of a tender point category were inconsistent with the patient's observed reaction to pressure, the degree of tenderness was classified according to the reaction. Tender points were considered to be present only if the tenderness was moderate or severe.

In Table 3 are shown three commonly used definitions of primary fibrositis[3–5] and a liberalized definition of fibrositis that does not include the number of tender points but does include two conditions often reported to be associated with fibrositis. The presence of fibrositis was evaluated for each of these definitions. The criteria described by Yunus et al[3] were modified for this study to include only 5 of the 25 tender points listed in Table 2 rather than 5 of the 40 tender points evaluated by Yunus et al.

Significance testing to compare the sensitivities of the criteria for severe disease was performed using the sign test.

RESULTS

Of the 692 patients who completed the screening questionnaire, 33 (4.8 percent) had unexplained muscular aching or stiffness in at least three areas for a period of more than three months. The demographic characteristics of these patients are shown in Table 4. There were 29 women (6.7 percent of the women who completed the screening questionnaire) and four men (1.5 percent) who qualified for this study. This difference is significant at the $P < .01$ level. The patients' ages were uniformly distributed between 20 and 70 years, nearly one half of the patients had some education beyond high school, and most were working outside the home or had worked outside the home in the past. Only one patient had symptoms for less than one year, and ten patients had symptoms for more than ten years. Four of the patients had periods as long as one month when they were free of symptoms. One patient had the symptoms for less than one year, and

TABLE 4. DEMOGRAPHIC CHARACTERISTICS OF STUDY SUBJECTS

Demographic Characteristic	Number	Percent
Sex		
Male	4	12
Female	29	88
Age (years)		
20–29	4	12
30–39	9	27
40–49	7	21
50–59	7	21
60–69	6	18
Education		
Less than ninth grade	3	9
Some high school	4	12
High school graduate	10	33
Technical or business	5	15
Some college	6	18
Completed college	3	9
Graduate or professional	2	6
Working status		
Full time	36	12
Part time	15	5
Homemaker	36	12
Retired	6	2
Unemployed	6	2
Duration of symptoms		
Less than 1 year	1	3
One to 2 years	6	20
Two to 5 years	6	20
Five to 10 years	7	23
More than 10 years	10	33
Missing	3	
Maximum symptom-free interval in past year		
None	10	30
One to 3 weeks	12	36
One to 3 months	4	12
No response	7	21
Past diagnosis of fibrositis		
Yes	3	9
No	30	91

TABLE 5. RELATIONSHIP BETWEEN SEVERITY OF SYMPTOMS AND CLASSIFICATION CRITERIA

Author	Patients No. (%)	Percent Sensitivity for Severe Symptoms (n = 18)	Percent Specificity for Severe* Symptoms (n = 13)	Percent Positive Predictive Value for Severe Symptoms
Yunus et al[3]	13 (39)	55	85	83
Wolfe and Cathey[7]	9 (27)	44	100	100
Campbell et al[4]	3 (9)	17**	100	100
Liberalized criteria	13 (39)	61	92	92

** Symptoms interfere with home chores or work outside the home*
*** Significantly lower ($P < .01$) sensitivity for severe symptoms than the liberalized criteria*

three patients had more than three consecutive weeks without symptoms.

Only three patients were identified as having fibrositis by their physician. Two of these patients met the criteria of Yunus et al,[3] another patient met the criteria of Wolfe et al,[5] and none of these patients met the criteria of Campbell et al.[4]

The number of patients who had fibrositis according to definitions found in the literature is shown in Table 5. The Yunus et al criteria identified the most patients as having fibrositis and the Campbell et al criteria the least.

Eighteen patients (58 percent) had symptoms that were severe enough to interfere with their job or home chores. The percentage of these patients that had fibrositis by a given set of criteria was low (ie, the sensitivity of the criteria): 61 percent by the liberal criteria, 55 percent by the Yunus et al criteria, and less than 50 percent for the other criteria. On the other hand, if the patients did not have severe symptoms, they were very unlikely to have fibrositis by any of the criteria, ie, the specificity was high. No patients without severe symptoms had fibrositis by the criteria of Wolfe et al or Campbell et al, ie, the specificity was 100 percent. The positive predictive value of the criteria is the percentage of patients with the criteria who had severe symptoms. For these data the predictive value is almost the same as the specificity of the criteria.

The liberalized criteria had a significantly greater sensitivity for severe disease than the criteria of Campbell et al.

DISCUSSION

In this study symptoms of chronic, diffuse, unexplained muscular aching were found to be relatively common in patients seen by primary care physicians. Few of these patients were diagnosed as having fibrositis, however. Possible reasons for the apparently low diagnosis rate are as follows: (1) the physicians may have made the diagnosis but not told the patients or recorded it on the charts, (2) the physicians may have been unfamiliar with fibrositis or unable to recognize the symptoms, or (3) the patients may not have discussed their symptoms with the physicians. If the latter were true, it was not because the symptoms were insignificant. All subjects were sufficiently motivated to devote considerable time to participate in this study; 19 subjects made three special clinic visits to participate in another fibrositis study, and 18 reported that their symptoms interfered with their work. Failure of the subjects to discuss symptoms may have resulted in part from their concern that physicians would consider the symptoms to be of psychological origin.

Another finding in this study was that many patients, even those with severe symptoms, did not meet all the criteria for fibrositis. Either these patients cannot be classified as having fibrositis or the criteria for fibrositis must be ignored. The implications of ignoring the criteria are unclear, as the criteria were developed to provide more substance to a diagnosis that depends primarily on subjectively reported symptoms. In support of these criteria, it has been shown that they are more frequently present in patients with fibrositis than for other persons.[3–5] However, research has not determined whether patients meeting the criteria respond differently to a given management than other patients with similar musculoskeletal symptoms. This research or the development of a "gold standard" diagnostic test for fibrositis is needed to validate the criteria.

An alternative to defining fibrositis as a syndrome is to define it only on the basis of the presenting complaint, ie, chronic, diffuse, noninflammatory musculoskeletal aching with no identifiable cause. There are three advantages to this definition: (1) it facilitates diagnosis, as the complete syndrome is difficult to remember and time-consuming to elicit; (2) it categorizes patients who otherwise may consider their symptoms to be unique and of serious or psychosomatic origin; and (3) it suggests that physicians use therapies proven effective for patients with more restrictive definitions of fibrositis.

In summary, this study suggests that greater awareness

of the prevalence of fibrositis and more focus on the presenting complaint may help physicians diagnose and treat a higher percentage of patients with this condition.

Acknowledgment

The study was supported in part by PHS grants 5 D32 PE13013-03 and 5 D15 PE83003-09.

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