Comorbidity Between Myofascial Pain of the Masticatory Muscles and Fibromyalgia

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This study compared myofascial pain of the masticatory muscles to fibromyalgia. Study data show that, in both myofascial pain and fibromyalgia patients, facial pain intensity and its daily pattern and effect on quality of life are very similar. This indicates that fibromyalgia should be included in the differential diagnosis for myofascial pain of the masticatory muscles. However, with the higher prevalence of neurologic and gastrointestinal symptoms, and the stronger words used to describe the affective dimension of pain, it is apparent that fibromyalgia may be a more debilitating condition than myofascial pain of the masticatory muscles. Since the intensity of facial pain was strongly and significantly correlated to the body-pain index in fibromyalgia but not in myofascial pain patients, it can be concluded that facial pain may be part of the clinical manifestations of fibromyalgia, but it is unlikely to be related to body pain in myofascial pain patients. On the other hand, while body pain is episodic in most myofascial pain patients, it is constant and more severe in the majority of fibromyalgia patients. This difference in the pain patterns suggests that body pain in fibromyalgia and myofascial pain could have different etiologies. The lack of correlation between the intensity of pain and the length of time since onset also supports the concept that myofascial pain of the masticatory muscles and fibromyalgia are unlikely to be progressive disorders.
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key words: body-pain index, facial-pain intensity, fibromyalgia, myofascial pain of the masticatory muscles, quality of life

Although myofascial pain of the masticatory muscles (MFP) is considered a regional pain disorder, some reports suggest that it may be closely related to fibromyalgia (FM). These speculations may come from the many characteristics shared by the two conditions. For instance, both MFP and FM are characterized by patients' chief complaint of pain and reports of tenderness upon palpation of specific body sites, the main distinct diagnostic criteria being the location of the tender points. Indeed, while the diagnosis of MFP is made if 3 out of 20 sites in the masticatory muscles[1] are tender, the diagnosis of FM is made if at least 11 out of 18 specific body sites, other than the masticatory muscles, are painful upon palpation.[2] Besides the artificial partition of the human body in the establishment of their diagnostic criteria, MFP and FM share many common features: their etiologies are unknown; patients' chronic muscle tenderness is not associated with any apparent anatomical

lesion or specific laboratory findings; and both affect mainly females.[3–5] Specific data for MFP are still lacking, but the body of literature on temporomandibular disorders (TMD), of which MFP is a subclass, reveals that TMD and FM show several similar signs and symptoms (ie, sleep disturbance, fatigue, anxiety, headache, irritable bowel, dysmenorrhea), and modulating factors (ie, fatigue, stress, weather changes, cold, warmth).[2,6–12] The "links"[13] or "overlapping features"[14] between the two disorders may be further illustrated by reports that some patients with FM also had TMD symptoms[15–19] and that symptoms of FM appear to be common in chronic TMD.[5,19,20] Many interpretations of the overlapping signs and symptoms between the two conditions have been proposed. Simons[21] suggests the possibility that they might be a different appreciation of the same condition. Widmer[22] proposes that the local symptoms may be sequelae of a more generalized condition of unknown etiology, while Bennett[23] believes that these are distinct disorders with the same underlying pathophysiology. The hypothesis that these disorders may represent two ends of a continuous spectrum has also been advanced.[24] Nonetheless, these impressions have not been verified, since no systematic studies of TMD in FM patients, nor of FM in TMD patients, have been done. More importantly, there are no available data on the comorbidity between MFP and FM.

The aim of this study was to compare MFP and FM, using patients' reports of pain and other somatic symptoms in the trigeminal area and body sites often involved in FM. The focus is on MFP since this is the only subclass of TMD that shares comparable diagnostic criteria with FM. This report will show that MFP and FM patients had facial pain of similar intensity and patterns, and that FM should be considered as a differential diagnosis for MFP. However, with a greater number of body-pain sites and somatic symptoms, FM appeared to be more severe and debilitating than MFP. Patients' reports on visual analogue scales (VASs) and the McGill Pain Questionnaire were used as main outcome measures. A short report has already been published.[25]

Materials and Methods

Population

Myofascial pain patients were recruited from among those who sought treatment for facial pain at the Research Clinic at the Faculty of Dentistry or at the Craniofacial Pain Research Unit at Mount Sinai Hospital in Toronto. Nineteen female patients participated in this study, ranging from 19 to 41 years of age and with a history of myofascial pain that varied in length from 8 months to 14 years.

In addition, 29 female FM patients were recruited from among those who sought treatment at the Clinic of Rheumatology at Toronto Western Hospital. These patients were between 22 and 45 years old, and their history of FM varied in length from 9 months to 12 years.

All patients gave informed consent to procedures approved by the University Human Ethics Committee.

Inclusion Criteria for Myofascial Pain Patients. Inclusion criteria for MFP patients included the following: *(1)* women ranging in age from 18–45 and seeking treatment; and *(2)* signs and symptoms as described in category 1a or 1b of "Research Diagnostic Criteria for Temporomandibular Disorders" (RDC).[1] In summary, MFP patients had to meet the following criteria: *(1)* chief complaint of pain in the jaw, temples, face, or preauricular area of a least 6 months' duration, with or without limited mouth opening, and *(2)* pain reported in response to digital palpation of 3 or more of the 20 muscle sites described in the RDC.

Extraoral and intraoral palpation were performed by one clinician (TD) using pressures of approximately 2 lb and 1 lb, respectively, as recommended in the RDC. Calibrations were done by exerting digital pressures against an algometer (Pressure Threshold Meter, Pain Diagnostic and Treatment, Great Neck, NY).

Inclusion Criteria for Fibromyalgia Patients. Women within the same age range as MFP patients were enrolled in the study if they had signs and symptoms similar to those described by the American College of Rheumatology (ACR),[2] including: *(1)* history of widespread pain, and *(2)* pain in response to digital palpation in 11 of 18 tender point sites, as listed by the ACR, performed with an approximate force of 4 kg, as recommended by the ACR. Calibration was also achieved with an algometer, as described above.

Exclusion Criteria for All Patients. Subjects were excluded if they had one or more of the following conditions:

- Clinical and/or radiographic signs or symptoms similar to those described for the categories "disc displacements" or "arthralgia, osteoarthritis, osteoarthrosis" in RDC
- Metabolic disease (eg, diabetes, hyperthyroidism)
- Neurological disorders (eg, dyskinesia, trigeminal neuralgia)

- Vascular diseases (hypertension)
- Migraine, tension-type headache
- Chronic pelvic and abdominal pain
- Neoplasia
- History of psychiatric disorders or current psychiatric treatment

Experiment Design

Myofascial pain patients were screened by one clinician (TD) in the Research Clinic. Fibromyalgia patients were recruited by a rheumatologist (JR) and then referred to the Research Clinic, where all patients checked a list of somatic symptoms and responded to interviewer-supervised self-administered questionnaires regarding their pain and its effect on their everyday-life activities. Patients used 100-mm VAS scales to report their present, average, and worst facial-pain intensity during the last 6 months, as well as the pain they experienced at nine body sites (neck, shoulders, arms, chest, abdomen, upper back, lower back, hips, legs) during the visit. The anchored words were "no pain at all" and "the most intense pain you can imagine." A body-pain index (BPI) was also compiled for each patient by combining all the positive scores from the nine body sites listed above and then dividing them by the number of painful sites. Quality of life was assessed by asking the patients to rate, using a VAS, how their facial and body pain interfered with their daily activities, changed their recreational, social, and family activities, or changed their ability to work. All patients used the McGill Pain Questionnaire[26] to describe their pain experience. During the interview, they were also asked to report the length of time since the first appearance of their facial and/or body pain and to relate whether their pain was episodic or constant.

Statistical Analysis

Student's t test was used for between-group comparisons of parametric data, such as VAS scores. Between-group comparisons of nonparametric data were performed using Fisher's Exact test or the Cochran-Mantel-Haenszel test. Whenever these tests were repeated, the Bonferroni adjustment was performed. The mean number of painful sites was also compared between groups using Student's t test. In each group of patients, the correlation between facial and body pain, and that between pain ratings and the length of time since the first appearance of these pains, were compiled using Pearson's correlation coefficient. The McGill Pain Questionnaire was scored and analyzed as recommended by its original author.[26]

Table 1 Prevalence of Somatic Complaints and Functional Symptoms

	MFP (%)	FM (%)
Headache	73.7	89.7
Sleep disturbance	52.7	93.1*†
Fatigue	47.4	100.0*‡
Muscle weakness	10.5	96.6*‡
Loss of memory	21.1	86.2*‡
Loss of coordination	5.3	51.7*
Pins-and-needles sensations	42.1	86.2*†
Indigestion	21.1	51.7
Diarrhea	5.3	68.9*‡
Abdominal bloating	26.3	75.9*‡
Constipation	15.8	65.5*†
Urinary urgency	0.0	58.6*‡

*Fisher's Exact test, $P <$ Bonferroni threshold (.004).
†‡Regression analysis controlling for age, $P < .005$ and $P < .004$, respectively. (The P values for Fatigue and for Urinary urgency were calculated using Monte Carlo methods.)

Results

Somatic Complaints and Functional Symptoms

While most FM patients complained of the symptoms listed in Table 1, only headaches and sleep disturbances were reported by the majority of MFP patients (73.7% and 52.6%, respectively). With the exception of headaches and indigestion, the prevalence of which was comparable between the two groups, all of the other symptoms (eg, sleep disturbance, fatigue, muscle weakness, neurological and gastrointestinal symptoms, and urinary urgency) were more prevalent in FM than in MFP patients (Fisher's Exact test, $P <$ Bonferroni threshold [.05/12 = .004]). Using the same Bonferroni threshold, a logistic regression analysis shows that only four of these differences (sleep disturbance, loss of coordination, pins-and-needles sensations, constipation) could be attributed to age (see Table 1).

Facial Pain

Prevalence. As might be expected, all MFP patients reported having facial pain during the visit and over the past 6 months. Among FM patients, 69% had facial pain during the visit, while 79.3% reported having facial pain during the last 6 months.

Intensity. In MFP patients, mean (± SE) present, past average, and past worst pain intensity during the last 6 months ranged from 46 ± 4.9 mm to 77.3 ± 4.9 mm. These were very similar to their corresponding values in the FM groups, which ranged from 47.2 ± 6.2 mm to 72.9 ± 5.3 mm. In addition, there were

Table 2 Mean Visual Analogue Scale Ratings for Facial Pain (± SE)

	MFP	FM
Present pain (P)	46.0 ± 4.9	47.2 ± 6.2
Worst pain in 6 months (W)	77.3 ± 4.9	72.9 ± 5.3
Average pain in 6 months (A)	53.6 ± 4.6	50.7 ± 5.9
P + W + A	58.9 ± 3.7	56.7 ± 5.0

There were no significant between-group differences for any of the above mean pains. P + W + A = mean sum of these ratings.

Table 3 Prevalence and Intensity of Pain (± SE) at Various Body Sites

	Prevalence (%)		Mean VAS pain		Between-group differences* in mean VAS pain
	MFP	FM	MFP	FM	
Neck	68.4	100.0	30.9 ± 7.2	62.0 ± 4.3	$P = .0004$
Shoulders	57.9	100.0	31.4 ± 8.2	57.0 ± 5.0	$P = .01$
Arms	31.6	89.6	13.4 ± 4.3	57.7 ± 5.0	$P = .0001$
Chest	26.3	75.9	20.2 ± 7.6	47.4 ± 4.8	$P = .01$
Abdomen	15.8	65.5	8.0 ± 2.6	37.0 ± 6.8	$P = .0008$
Upper back	42.1	89.6	25.9 ± 7.5	61.3 ± 4.2	$P = .0003$
Lower back	57.9	93.1	24.4 ± 6.5	54.9 ± 5.3	$P = .002$
Hips	31.6	86.2	22.5 ± 7.7	50.6 ± 6.3	$P = .04$
Legs	31.6	86.2	28.0 ± 9.5	41.2 ± 5.0	$P > .05$

*t tests, Bonferroni threshold: $P = .0027$.

no between-group differences for the mean sum of these ratings (ie, present + past average + past worst pain during the last 6 months), as shown in Table 2.

Quality of Life. When asked how their facial pain interfered with their daily activities, changed their recreational, social, and family activities, or changed their ability to work, the mean VAS scores (± SE) for MFP patients were, respectively, 44.68 ± 4.9 mm, 39.4 ± 5.9 mm, and 30.9 ± 5.9 mm. These were not significantly different from their corresponding values in the FM group (53.3 ± 8.2 mm, 42.3 ± 8.4 mm, and 39.9 ± 9.7 mm).

Body Pain

Pain Sites. Table 3 shows that pain in MFP patients is not restricted to the facial area. For instance, upper-back, lower-back, shoulder, and neck pain were reported by 42.1% to 68.4% of the patients in this group. However, with the exception of lower-back pain, pain at the eight other body sites was reported up to four times more frequently by FM than by MFP patients (Fisher's Exact test, $P <$ Bonferroni threshold [.05/18 = .0027]), as shown in Table 3. In addition, the number of body pain sites in MFP patients (3.6 ± 0.6) was smaller than that of FM patients (7.9 ± 0.3; $t = -6.80$; $P < .0001$). The Cochran-Mantel-Haenszel test for difference of mean number of pain sites in the two groups was still significant after controlling for age ($X^2_1 = 18.9$; $P < .0001$). Figure 1 shows that there were more patients with a larger number of body pain sites among the FM than among the MFP group (Cochran-Mantel-Haenszel test, $P < .001$).

Pain Intensity. In MFP patients, mean VAS pain ratings (± SE) for each of the nine body sites ranged from 8.0 ± 2.6 mm to 31.4 ± 8.2 mm (Table 3). After the Bonferroni correction for repeated t tests, mean neck pain (30.9 ± 7.2 mm), arm (13.0 ± 4.3), abdomen (8.0 ± 2.6 mm), upper-back (25.9 ± 7.5 mm), and lower-back pain (24.4 ± 6.5 mm) in this group were two to four times lower than their corresponding values in the FM group ($P <$ Bonferroni threshold [.05/18 = .0027]). These ranged from 37.0 ± 6.8 mm to 62.0 ± 4.3 mm. The mean body-pain index in MFP patients (29.7 ± 4.6 mm) was also significantly lower (by 57%) than that of the FM patients (52.1 ± 3.3 mm; t test, $P < .0002$).

Quality of Life. Besides having higher body pain, the FM group also reported a higher impact of body pain on their quality of life. Their mean VAS scores (± SE) for "interference with daily activities" (81.7 ± 4.1 mm), "changes in recreational, social, and family activities" (78.0 ± 4.3 mm), and

"changes in the ability to work" (82.6 ± 4.2 mm) were more than two times higher than their corresponding values in the MFP group ($P < .0001$; Bonferroni threshold = .008). The mean VAS scores reported by MFP patients were 32.6 ± 4.9 mm, 29.9 ± 5.4 mm, and 27.3 ± 4.3 mm, respectively.

McGill Pain Questionnaire

Among the most common words chosen to describe the sensory dimension of pain, both groups of patients selected "tender," "aching," and "throbbing." However, with the present sample size, the between-group difference in the mean ratings of the sensory dimension of pain was not significantly different (P = Bonferroni threshold [.01]).

As was the case with quality-of-life impairment, the affective dimension of pain was rated significantly (up to two times) higher by the FM than by the MFP group, with both the scale value (FM: 5.8 ± 0.6; MFP: 1.9 ± 0.5) and the rank value (FM: 3.6 ± 0.4; MFP: 1.9 ± 0.3; t tests: $P <$ Bonferroni threshold [.01]). This is further illustrated by the fact that four times more FM patients selected the word "exhausting" to describe the affective dimension of their pain than MFP patients (65.5% versus 15.8%, respectively). There were no between-group differences for the evaluative and miscellaneous components of pain, regardless of whether scale or rank values were used.

Patterns of Pain Occurrence

Occurrence of Facial Pain in Relation to Body Pain. Four MFP patients had facial pain for 10 months to 15 years without developing any body pain. Among the 15 MFP subjects who had both facial and body pain, only two reported that these pains occurred at the same time, while 7 reported that their facial pain was present for 10 months to 12 years before the appearance of their body pain. Six patients had body pain for 1 month to 15 years before experiencing facial pain.

Among the 22 FM patients who had both facial and body pain, these started at the same time in almost half of this group (ie, 10 patients); body pain preceded facial pain by 3 months to 6 years in 7 patients, while facial pain started first in the 5 remaining patients and was followed by body pain after 6 to 18 years. Seven FM patients did not develop any facial pain after having body pain for 1 to 9 years.

Pain Patterns: Constant versus Episodic. Nine MFP patients reported that their condition was episodic, and the other 10 patients described their pain as being constant. Conversely, only 2 FM patients noticed that their pain was episodic, while the remaining 27 patients perceived their pain as being constant. This distribution was significantly different in the two groups (Fisher's Exact test, $P <$ .003). A further separation of facial from body pain revealed the contrast in the body-pain patterns described by the two groups of patients (Fig 2b): while the majority of MFP patients (71%) described their body pain as being episodic, most of the FM patients (89%) reported theirs as being constant (Fisher's Exact test, $P < .005$). Figure 2a shows that the distribution of patients in each group having constant or episodic facial pain is very similar.

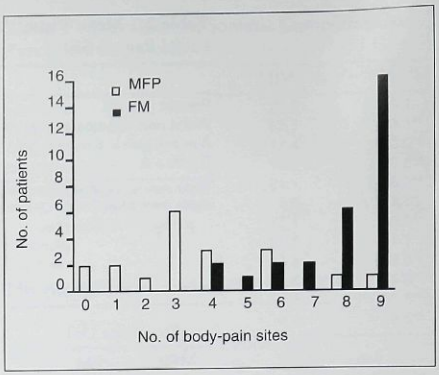
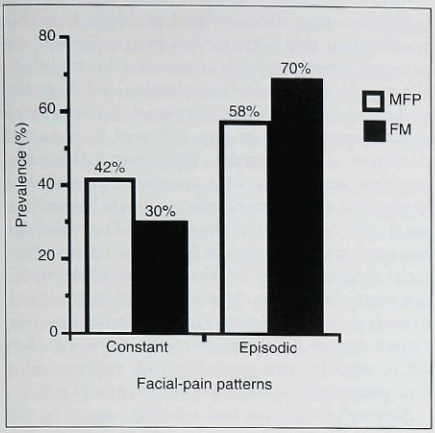


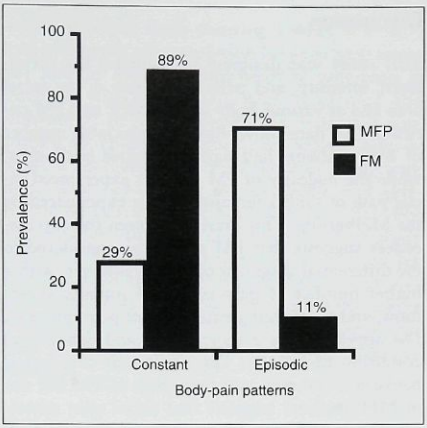
Fig 1 Distribution of MFP and FM patients with various numbers of body-pain sites. There were more patients with a greater number of body-pain sites in the FM group than in the MFP group (Cochran-Mantel-Haenszel test, $P < .001$).

Correlation Analyses

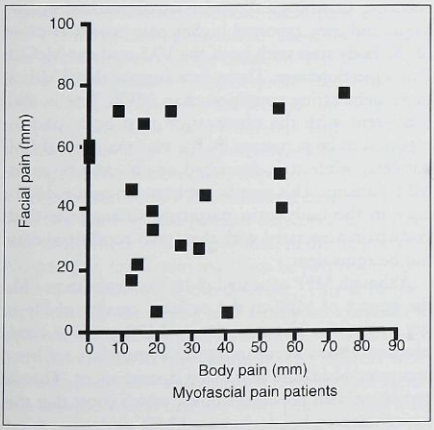
In MFP patients, there were no significant correlations between the length of time since the onset of facial pain and the VAS facial pain reported during the visit ($r = .33$; $P = .17$). Similarly, in FM patients, no significant correlation was found between the length of time since the onset of body pain and the current mean body-pain index ($r = -.08$; $P = .67$).

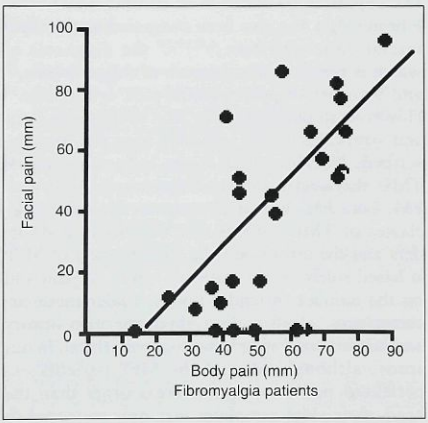
However, while the correlation between the mean facial-pain intensity and the mean body-pain index in MFP patients was nonsignificant ($r = .38$; $P = .13$) (Fig 3a), this correlation was found to be highly significant in the FM group ($r = .77$; $P <$ .0001), as illustrated in Fig 3b.





Figs 2a (*left*) and 2b (*right*) While the facial-pain patterns in MFP and FM patients are very similar, there is a significant between-group difference in their body-pain patterns. Most MFP patients reported that their body pain was episodic, while the vast majority of FM patients reported their pain as being constant. (For body-pain patterns, $P < .005$ [Fisher's Exact test].)





Figs 3a (*left*) and 3b (*right*) Correlation between VAS facial pain and the mean body-pain index in MFP patients and in FM patients. The body-pain index was calculated for each patient by dividing the sum of all positive body-pain scores by the number of painful sites. The correlation between VAS facial pain and the body-pain index was strong and significant in FM patients ($r = .77$, $P = .0001$) but not in MFP patients ($r = .38$, $P = .13$).

Discussion

This study was designed to compare the prevalence, intensity, and patterns of pain in the facial area and at various body sites in MFP and FM patients. Our data show that an appreciable number of MFP patients had pain at various body sites, while the majority of FM subjects experienced facial pain of similar intensity to that experienced by the MFP group. This overlap between the two disorders suggests that FM should be considered in the differential diagnosis of MFP. However, with a higher number of pain sites and somatic symptoms, and an overall greater level of pain intensity, FM appears to be a more severe and debilitating condition than MFP. The significant correlation between facial pain and body pain in FM but not in MFP patients suggests that facial pain associated with FM may be an integral part of FM, while that in MFP is unlikely to be the consequence of a widespread body-pain condition. On the other hand, the marked difference in the body-pain patterns (episodic in MFP, constant in FM) suggests that body pain in the two groups may represent distinct clinical disorders.

Previous studies suggest that FM patients also have TMD symptoms[15-19,27] and that symptoms of FM appear to be common in chronic TMD.[5,19,20] Fibromyalgia has also been compared to the myofascial pain syndrome,[6,8,19,28] the diagnosis of which is based on the presence of trigger points,[29] and to other chronic regional-pain syndromes.[10] However, to our knowledge, the overlapping signs and symptoms of FM and MFP have not been described. Notably, MFP is the only subgroup of TMD that shares similar diagnostic features with FM. Like FM, but in contrast to the other subclasses of TMD such as disc displacement disorders and the arthritides, the identification of MFP is based solely on the patient's report of pain and on the number of tender points. Under these circumstances, a full inquiry about the pain history and its associated symptoms becomes critical. In our study, although most of the MFP patients experienced pain in corporal areas other than the head, their chief complaint was only restricted to facial pain. On the other hand, FM patients do not usually complain about facial pain, in spite of the fact that their facial pain can be as severe and as debilitating as that experienced by MFP patients, as shown here. This reporting bias may be due to the fact that MFP patients do not expect to receive services that extend beyond the scope of dentistry,[30] and that FM patients do not expect their physician to provide treatment for what has long been believed to be a dental-related problem. It is also possible that this behavior has been influenced by patients' experience with clinicians who traditionally restrict their clinical examination and diagnosis to the area relevant to their expertise. This may lead to an incomplete diagnosis, followed by a partial treatment of the disorder. Thus, our data underscore the importance of a comprehensive clinical history and examination which extends beyond the usual chief complaint of the patient. These findings also suggest that FM should figure among the differential diagnosis of MFP. This is even more important since our results show that the two groups of patients cannot be distinguished on the basis of their current or past facial-pain intensity, the words chosen to describe their respective pain experience, or their patterns of facial-pain occurrence (see Fig 2a).

Although facial pain had a similar impact on the quality of life of patients in both groups, body pain appeared to affect FM patients significantly more than patients in the MFP group. This is substantiated by the finding that the majority of FM patients used stronger words in the McGill Pain Questionnaire to describe the affective dimension of their pain. This is not surprising since, when compared to the MFP group, FM patients had a higher number of body-pain sites and a greater prevalence of somatic, neurological, and gastrointestinal symptoms, and they reported higher pain scores at most of the body sites with both the VAS and the McGill Pain Questionnaire. These data suggest that FM is a more debilitating condition than MFP. This is also consistent with the observation that body pain is reported to be persistent by the vast majority of FM patients, while it is described as episodic by most MFP patients. This significant between-group difference in the body-pain pattern also suggests that body pain associated with these two conditions may not be equivalent.

Although MFP appeared to be less severe than FM, the impact of MFP on the patients' quality of life is not negligible. The majority of MFP patients complained about accompanying symptoms such as recurrent headache and sleep disturbances. This is consistent with previous studies, which show that the prevalence of headaches in TMD patients varied between 68% and 78%,[31,32] while sleep disturbances were present in 59% of MFP patients.[33,34] The prevalence of neurological and gastrointestinal symptoms observed in this study (up to 42%) also approximate those reported for patients with other regional-pain disorders, eg, myofascial pain syndrome diagnosed with the presence of trigger points in painful muscles (up to 37.5%).[6,18,19] Thus, although facial pain often constitutes the sole chief complaint of MFP patients,

our data suggest that the patients' quality of life may also be impaired by its satellite symptoms. These findings may have important clinical implications, because they suggest that the management of MFP patients should broaden to include not only the relief of facial pain, but also other accompanying disorders not included in the chief complaint.

With the presence of pain in various corporal sites, and symptoms commonly associated with FM, it is tempting to speculate that MFP is not merely a localized disorder, but a possible sequela of a more generalized condition such as FM.[22] However, if this were true, one might expect that the majority of MFP patients would have widespread body pain, that their body pain would have preceded their facial pain, and that the mean facial-pain intensity would correlate positively with the mean body-pain index. Clearly, our data do not support this notion. Although the majority of MFP patients had one or several tender body sites in addition to their facial pain, 21% had facial pain for up to 15 years without experiencing any body pain. Almost half of those who reported both facial and body pain had facial pain for up to 12 years before body pain developed. Facial pain also preceded body pain in five out of the six MFP patients who reported having widespread pain. Furthermore, in the MFP group, we found no significant correlation between facial-pain intensity and the mean body-pain index. These data suggest that in the majority of the cases, MFP is unlikely to be the consequence of a widespread pain condition such as FM, but this does not preclude the possibility that these disorders occupy different ends of a continuous spectrum.[24] Alternatively, different trends among the FM patients who experienced both facial and body pain were observed, suggesting that more than two thirds of FM patients developed facial pain over time. These data suggest that, in the majority of FM patients, facial pain may thus be part of the clinical manifestations of the disorder. This is further supported by the strong and significant correlation between the mean facial-pain intensity and mean body-pain index in this group, ie, FM patients who had high body pain also reported high levels of facial pain and those who had low body pain also had low facial pain. It is thus possible that, in contrast to MFP, and as suggested by Wolfe,[5] facial pain in FM patients may result from a decreased pain threshold associated with their widespread pain condition. However, this does not preclude the possibility that MFP and FM coexist in some patients.

Our results show that, in both the MFP and FM patients, pain severity was not related to the length of time since onset. This is in agreement with a previous study showing a weak ($r = -.07$) and nonsignificant correlation between pain intensity and the duration since onset of symptoms in patients with myofascial pain syndrome and fibrositis.[28] In MFP patients, this is further supported by epidemiological data which demonstrate a decrease in the prevalence of TMD with age,[4] and reports on the cyclicity and self-restricted character of these disorders.[35–39] For FM patients, although data from a recent study indicate that the prevalence of the disorder increases with age, most clinical observations suggest that FM is a chronic but rather unchanging condition over time.[5,40–43] These data suggest that both MFP and FM are unlikely to be progressive disorders.

Acknowledgments

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Resumen

Los Efectos de un Facilitador sobre la Inmunoreactividad de un Péptido Parecido al Neuropéptido en la Articulación Temporomandibular y los Ganglios Trigéminos

Se estudió la interacción del sistema nervioso examinando la Substancia P, el Péptido Relacionado al Gen de la Calcitonina, y la inmunoreactividad de un péptido parecido al Neuropéptido Y, en los ganglios trigéminos y las articulaciones temporomandibulares (ATMs) de ratas con artritis experimental. La artritis fue inducida en ratas hembras tipo Lewis por medio de una inyección bilateral (en las ATMs de las ratas) de una suspensión de Mycobacterium butyricum muerto a base de calor en aceite de parafina. Las ratas de control recibieron aceite de parafina a través de la misma ruta. Se recolectaron los tejidos para la extracción del neuropéptido y analizados por medio de radioinmunoensayos y de cromatografía líquida de alto rendimiento y de fase inversa. El Péptido Relacionado al Gen de la Calcitonina aumentó en los ganglios trigéminos artríticos, y la Substancia P, el Péptido del Gen relacionado a la Calcitonina, y el Neuropéptido Y aumentaron en la ATM artrítica en comparación con los controles. Los resultados de este estudio demuestran que hay una interacción cercana entre el sistema nervioso y el desarrollo de la artritis en la ATM de la rata.

Zusammenfassung

Komorbidität zwischen myofazialem Schmerz der Kaumuskulatur und Fibromyalgie

Diese Studie vergleicht myofazialen Schmerz der Kaumuskulatur mit Fibromyalgie. Die Daten der Studie zeigen, dass sowohl bei Patienten mit myofazialem Schmerz als auch mit Fibromyalgie die Intensität des fazialen Schmerzes, sein tägliches Muster und seine Auswirkung auf die Lebensqualität sehr ähnlich sind. Dies deutet darauf hin, dass Fibromyalgie in die Differentialdiagnose des myofazialen Schmerzes der Kaumuskulatur einbezogen werden sollte. Dagegen ist es augenscheinlich, dass Fibromyalgie mit dem erhöhten Auftreten von neurologischen und gastrointestinalen Symptomen, sowie den stärkeren Ausdrücken, welche zur Beschreibung der affektiven Dimension des Schmerzes benützt wurden, ein schwächenderer Zustand als myofaziale Schmerzen der Kaumuskulatur sein mag. Da die Intensität des fazialen Schmerzes streng und signifikant mit dem Index der Körperschmerzen korreliert war bei Fibromyalgie, aber nicht bei Patienten mit myofazialem Schmerz, kann daraus geschlossen werden, dass fazialer Schmerz ein Teil der klinischen Manifestation der Fibromyalgie darstellen kann, aber unwahrscheinlich verbunden ist mit Körperschmerzen bei Patienten mit myofazialem Schmerz. Auf der anderen Seite ist der Körperschmerz bei der Mehrheit der Fibromyalgiepatienten konstant und ernsthafter, während er bei den meisten myofazialen Schmerzpatienten episodisch ist. Dieser Unterschied im Schmerzmuster legt nahe, dass Körperschmerzen bei Fibromyalgie und myofazialen Schmerzen verschiedene Aetiologien haben könnten. Das Fehlen einer Korrelation zwischen der Schmerzintensität und der Zeitdauer seit Auftreten unterstützt ebenfalls das Konzept, nach welchem myofaziale Schmerzen der Kaumuskulatur und Fibromyalgie wahrscheinlich keine progressiven Erkrankungen darstellen.