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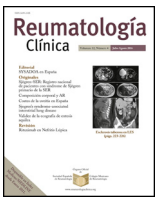

Original Article

Clinical significance of fibromyalgia syndrome in different rheumatic diseases: Relation to disease activity and quality of life

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ABSTRACT

Objective: To describe the frequencies of fibromyalgia syndrome (FMS) in various rheumatic diseases; rheumatoid arthritis (RA), systemic lupus erythematosus (SLE), systemic sclerosis (SSc) and Behçets disease (BD) patients and to study the relation to clinical manifestations and quality of life (QoL).
Patients and methods: 160 patients (50 RA, 50 SLE, 30 SSc and 30 BD) and matched corresponding healthy controls were included. Disease activity was assessed using disease activity score in 28 joints (DAS28) for RA, SLE Disease Activity index (SLEDAI), modified Rodnan skin score for SSc and BD Current Activity Form (BDCAF). The QoL was also recorded. Severity in FMS cases was estimated using the revised Fibromyalgia Impact Questionnaire score.
Results: In the RA, SLE, SSc and BD patients, FMS was found in 14%, 18%, 6.67% and 3.33% respectively compared to 2.1%, 3%, 3.3% and 0% in their corresponding controls. In RA patients, DAS28 was significantly higher in those with FMS ($p = 0.009$) and significantly correlated with both Widespread Pain Index (WPI) ($p = 0.011$) and Symptom Severity (SS) scale ($p = 0.012$). The QoL scale in those with FMS was significantly worse (62.3 ± 7.9) compared to those without (71.7 ± 14.4) ($p = 0.023$). In SLE patients, The WPI and SS both significantly correlated with the presence of thrombosis ($r = 0.28$, $p = 0.049$ and $r = 0.43$, $p = 0.002$ respectively). The SS scale tended to correlate with the SLEDAI ($r = 0.28$, $p = 0.05$). In BD patients, BDCAF and WPI significantly correlated ($p = 0.03$).
Conclusion: Fibromyalgia syndrome is more frequent in rheumatic diseases, could be related to the disease activity in RA and BD patients and to thrombosis in SLE and affected the QoL in RA.

Significación clínica del síndrome de fibromialgia en diferentes enfermedades reumáticas: relación con la actividad de la enfermedad y la calidad de vida

Palabras clave:
Artritis reumatoide
Lupus eritematoso sistémico
Esclerosis sistémica
Enfermedad de Behçet
Síndrome de fibromialgia
Actividad de la enfermedad
Calidad de vida

RESUMEN

Objetivo: Describir las frecuencias del síndrome de fibromialgia (SFM) en los pacientes de diversas enfermedades reumáticas; artritis reumatoide (AR), lupus eritematoso sistémico (LES), esclerosis sistémica (ES) y enfermedad de Behçet (EB), y estudiar su relación con las manifestaciones clínicas y la calidad de vida (CV).
Pacientes y métodos: Se incluyó en el estudio a 160 pacientes (50 AR, 50 LES, 30 ES y 30 EB) y a los controles sanos emparejados. La actividad de la enfermedad se evaluó utilizando las escalas Disease Activity Score en 28 articulaciones (DAS28) para AR, SLE Disease Activity Index (SLEDAI), Rodnan modificada para ES y BD Current Activity Form (BDCAF). También se registró la CV. La severidad en los casos de SFM se estimó utilizando la escala Fibromyalgia Impact Questionnaire revisada.
Resultados: En los pacientes de AR, LES, ES y EB se encontró SFM en el 14, el 18, el 6,67 y el 3,33%, respectivamente, en comparación al 2,1, el 3, el 3,3 y el 0% en sus controles correspondientes. En los pacientes con AR, la clasificación DAS28 fue significativamente superior en aquellos con SFM (p = 0,009), guardando una correlación significativa con las escalas Widespread Pain Index (WPI) (p = 0,011) y Symptom Severity (SS) (p = 0,012). La escala CV en aquellos pacientes con SFM fue considerablemente peor ($62,3 \pm 7,9$) en comparación con aquellos que no presentaban dicho síndrome ($71,7 \pm 14,4$) (p = 0,023). En los pacientes

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de LES, ambas escalas, WPI y SS, guardaron una correlación significativa con la presencia de trombosis (r = 0,28, p = 0,049, y r = 0,43, p = 0,002 respectivamente). La escala SS tendió a guardar una relación con la escala SLEDAI (r = 0,28, p = 0,05). En los pacientes con EB, las escalas BDCAF y WPI guardaron una correlación significativa (p = 0,03).
Conclusión: El síndrome de fibromialgia es más frecuente en las enfermedades reumáticas y podría guardar relación con la actividad de la enfermedad en los pacientes de AR y EB, y con la trombosis en los pacientes de LES, afectando a la CV en la AR.

Introduction

Fibromyalgia syndrome (FMS) is defined by the presence of generalized pain, fatigue, unrefreshed sleep, multiple somatic symptoms and cognitive problems.[1] Pain and inflammation in patients with inflammatory arthritis play a role in the development and course of FMS.[2] Perhaps the most important role of the rheumatologist is to confirm the diagnosis and determine if the patient has a co-morbid rheumatic condition that should be treated. If FMS is complicating another rheumatic disease, specific management of FMS may improve overall health outcomes.[3]

Rheumatic diseases are characterized by chronic pain and as many as 15–30% of patients also have associated FMS.[4] As these rates are much higher than the prevalence of FMS in the general population (2%), it seems that the pain accompanying chronic rheumatic diseases is also capable of triggering FMS.[5] As concomitant FMS is a common clinical problem in rheumatic diseases, its recognition is important for their optimal management. Increased pain, physical limitations, and fatigue may be interpreted as increased activity of these diseases.[6] The association of systemic lupus erythematosus (SLE) and FMS may pose a clinical diagnostic dilemma as both share many symptoms.[7] The superimposed pain of FMS may lead to the prescription of higher doses of corticosteroids or biologic agents.[6]

In one study on systemic sclerosis (SSc) patients, the frequency of FMS was reported to be 2%.[8] There are little published data on the relationship between FMS and Behçets disease (BD). FMS is a common and important clinical problem that may represent an additional factor that worsens pain and physical limitations in BD patients. An increased awareness of this possible coexistence may contribute more accurate management of BD.[9]

The aim of the present work was to describe the frequencies of FMS in various rheumatic diseases; rheumatoid arthritis (RA), SLE, SSc and BD patients and to study the relation of FMS to the clinical manifestations, laboratory features, disease activity and/or damage as well as the quality of life (QoL).

Patients and methods

The study included 160 patients; 50 with RA, 50 with SLE, 30 with SSc and another 30 with BD. All patients were consequently recruited from those attending the Rheumatology outpatient clinic and department, Faculty of Medicine, Cairo University Hospital. Patients were included when they fulfilled their corresponding classification criteria; 2010 American College of Rheumatology/European League Against Rheumatism (ACR/EULAR) classification criteria[10] for RA, Systemic Lupus International Collaborating Clinics (SLICC) classification criteria[11] for SLE, 2013 ACR/EULAR classification criteria[12] for SSc patients and the International Study Group criteria for BD.[13] Apparently healthy volunteers (n = 141) were included as control groups who were age and sex matched for each disease; they were 48 control for RA patients, 33 for SLE, 30 for SSc and 30 for the BD patients. All controls were recruited from the hospital staff members and employees and relatives of the patients were not considered to avoid familiar aggregation. The study was performed in accordance with the Declaration of Helsinki, and all patients gave written consent for enrollment in the study.

All patients were subjected to full history taking and physical examination. Relevant laboratory and radiological investigations were done. The following disease activity indices and score were considered: disease activity score in 28 joints (DAS28)[14] and health assessment questionnaire II (HAQII)[15] for RA patients; SLE Disease Activity index (SLEDAI)[16] and SLICC/ACR damage index[17] for SLE patients, modified Rodnan skin score (mRss)[18] and systemic sclerosis disease severity[19] for SSc patients and BD Current Activity Form (BDCAF)[20] for BD patients. The QoL scale[21] was assessed for all the patients. The 2010 ACR preliminary diagnostic criteria for FMS was applied to all the patients and control[22] and those with FMS were assessed for severity using the revised Fibromyalgia Impact Questionnaire (FIQR) score.[23]

Statistical analysis

Data were analyzed using the computer program, SPSS (Statistical Package for the Social Science; SPSS Inc., Chicago, IL, USA) version 15. Data were described in terms of range, mean ± SD, median, frequencies (number of cases) and percentages when appropriate. Comparison of quantitative variables between the study groups was done using Mann Whitney *U* test for independent samples. For comparing categorical data, Chi square (χ^2) test was performed. Comparison among more than 2 groups was by ANOVA. Spearman's correlation analysis was used for detection of the relation between 2 variables. *p*-Value <0.05 was considered statistically significant.

Results

The characteristic features of the RA patients with and without FMS are presented in Table 1. The controls were matched in age (39.6 ± 14 years) ($p = 0.1$) and sex (F:M 7:1) ($p = 0.7$). The frequency of FMS in the RA patients was 14% while in their corresponding control was 2.1% (1/48 subjects). The mean FIQR score of the 7 RA patients with FMS was 104.4 ± 23.9. The WPI component of FMS significantly correlated with the DAS28 ($r = 0.36$, $p = 0.01$) and negatively with the QoL scale ($r = -0.39$, $p = 0.004$) and the SS scale correlated with the DAS28 ($r = 0.35$, $p = 0.012$), HAQII ($r = 0.39$, $p = 0.006$) and negatively with the QoL ($r = -0.36$, $p = 0.01$).

The characteristic features of the SLE patients with and without FMS are presented in Table 2. The controls were matched in age (29.9 ± 7.1 years) and similarly were all females. The frequency of FMS in the SLE patients was 18% while in their corresponding control was 3% (1/33 subjects). The mean FIQR score of the 9 SLE patients with FMS was 94.2 ± 13.9. The WPI and SS scale both significantly correlated with the presence of thrombosis ($r = 0.28$,

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