Assessment of the current inflammatory back pain criteria in patients with fibromyalgia

Sirs,

Inflammatory back pain (IBP) is a cornerstone definition for patients with spondyloarthropathies (SpAs). The new Assessment of Spondylarthritis International Society (ASAS) criteria were developed for patients presenting with IBP (1). Currently available IBP criteria include the Calin (2), Berlin (3), and ASAS (4) criteria.

Fibromyalgia (FM) is characterised by widespread pain. The new FM criteria published in 2011 (5) include widespread pain affecting multiple regions of the body while the previous 1999 criteria (6) for the diagnosis of FM require the clinician to evaluate tender points. FM is classified as primary (*i.e.* not associated to other diseases) or secondary (*i.e.* associated to other disease). The aim of the present study was to evaluate whether patients with primary FM satisfy the current existing criteria for IBP namely: Calin, Berlin and ASAS. The secondary aim was to determine the proportions of patients meeting the individual factors evaluated in the existing IBP criteria.

We performed a single-centre prospective observational study of patients with primary FM attending a routine rheumatology clinic. Patients completed a questionnaire with indices related to FM (part 1) and SpAs (part 2). The individual items for the IBP criteria were included in a proforma comprising of items included in each of the 3 IBP criteria. All clinical assessments and tender point evaluation were performed by the same clinician (ER) and metrologist (AG) all along the study. If a patient experienced difficulty in describing whether a symptom was present the item was left blank and was excluded from the analysis. Photocopies of clinical evaluations were kept in notes while the full questionnaire was given to patients to be completed at home and returned back.

The FM-specific assessments comprised pain, fatigue, fibro-fatigue scale (7) sleep quality, emotional functioning (8), and the ability to perform activities (9).

For SpA assessment indices used in the London Registry of SpAs (LoRoS) questionnaire (used in our department to collect data on patients with SpAs), described elsewhere (10). Briefly, the LoRoS questionnaire includes the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Bath Ankylosing Spondylitis Functional Index (BASFI) indices, in addition to four 0–10 cm VASs to assess the patients' perception of well-being, night pain, sleep disturbance over the preceding week, and well-being over the preceding 6 months. In these VASs, 10 was indicative of the worst possible response.

A total of 95 patients with primary FM were assessed. Tender point evaluation was done in 68/95 patients (71.5%), of which 46 (67.6%) had more than 11/18 tender points thus fulfilling the 1990 criteria. The demographic and clinical characteristics of the FM patients are shown in Table I.

Overall, data for both assessments and questionnaires were available for 53/95 patients (55.7%) as a proportion of patients did not return the questionnaire. The proportion of FM patients meeting each of the IBP criteria as well as the proportion and percentage of individual item described in each of the criteria that are met by FM patients, are shown in Table I.

Responses such as "occasionally", "sometimes", and "not sure" were excluded from the analysis. Similarly, when patients stated only a certain type of exercise to alleviate

Table I. Demographic, clinical characteristics and individual items of the 3 inflammatory back pain criteria met by the total group of patients with fibromyalgia.

Characteristics	Mean	Standard deviation (±)
Age	46.9	10.8
Gender [M:F]	5: 90	N/A
Race [Caucasian: Asian : African]	52: 40:3	N/A
Age at symptom onset (years)	33.1	11.2
Age at diagnosis (years)	41.9	9.3
FIBROMYALGIA QUESTIONS		
Fibromyalgia pain *(VAS) [10 cm; max worse]	8.4	1.8
Fibromyalgia fatigue **(VAS) [10 cm; max worse]	8.4	1.5
Fibro-Fatigue pain ***(0-90, max worse)	50.7	14.1
Sleep Quality ****(VAS) [0-10 max, worse]	7.9	2.04
Rotterdam scale *****(range 30-120)	74.8	14.7
Ability to perform activities******(8-32; 8 unable)	23.8	10.9
SPONDYLOARTHRITIS QUESTIONS		
BASDAI	7.4	1.7
BASFI	7.1	2.2
Night Pain (VAS) [0-10 cm; 10=worse]	8.3	1.9
Sleep disturbance (VAS) [0-10 cm; 10=worse]	8	2.5
Well being past week (VAS) [0-10 cm; 10=worse]	7.9	2.02
Well being past 5 months(VAS) [10 cm; 10=worse]	8.1	1.7
IBP criteria	No. of patients fulfilling / total assessments	%
Calin	33/53	62.2
Berlin	33/48	68.7
ASAS	11/47	23.4
Individual items included in criteria collectively taken (criterion/a) that are included)	Positive responses / total	%
Age of back pain onset (Calin & ASAS)	44/59	74.5
Insidious onset (Calin & ASAS)	41/53	77.4
Back pain duration of more than 3 months (Calin)	54/57	94.7
Back pain associated with Morning Stiffness of more than 30 minutes (Calin & Berlin)	52/55	94.5
Back pain getting better with exercise (Calin, Berlin, ASAS)	14/50	28
Back pain inducing awaking second half of the night (Berlin)	22/48	45.8
Alternating buttock pain (Berlin)	18/49	36.7
Back pain at night (ASAS)	26/48	54.2
Back pain not getting better with rest (ASAS)	17/47	36.2

*Fibromyalgia Pain was measured using a 0–10 cm visual analogue scale (VAS), on which the patients marked the number representing their level of pain, where 0 = no pain and 10 = worst possible pain.

**Fibromyalgia Fatigue was measured using a VAS and the fibro-fatigue scale (7). The VAS for fatigue ranged from 0 = no fatigue to 10 = worst possible fatigue.

***Fibro-Fatigue scale It comprises 18 items covering the following factors: pain, muscular tension, fatigue, concentration difficulties, failing memory, anxiety, sleep disturbance and restless sleep, autonomic disturbance (irritable bowel, headache, palpitations, dizziness, cold hands and feet), ability to work, ability to perform housework and to perform daily activities. Individual items are scored using a 5-point scale and the total score ranges from 0 to 90.

****Sleep quality. The impact of FM on sleep quality was measured using a 0–10 cm VAS, where 0 = no impact on sleep quality and 10 = worst possible impact on sleep quality.

*****Emotional functioning-Rotterdam symptom checklist. Emotional functioning was assessed using an abbreviated version of the Rotterdam symptom checklist that included 30 of 90 items in the original checklist. Scores range from 30 = no effect/normal emotional functioning to 120 = worst possible emotional functioning (8). The 30-item scale included additional questions derived from previous scales to evaluate lack of appetite, irritability, nervousness, worrying about the future, and decreased sexual interest, for example. Items were rated on a four-point scale from not at all (= 1) to very much (= 4). Emotional functioning was defined as the sum score of all items.

******Ability to perform activities. The ability to perform activities in the past week was determined as previously described (9). The questionnaire recorded eight activities: "care for one-self", "walk about the house", "performing light household jobs", "climbing stairs", "performing heavy household activities", "ability to work outside", "go shopping", and "go to work". There were four possible responses for each item (graded 1–4): "unable to perform activities" (= 1), "ability to perform activities only with help" (= 2), "ability to perform activities with difficulty" (= 3), and "ability to perform activities without help" (= 4). The total score ranged from 8 to 32, where 8 = unable/worst possible and 32 = best possible activity.

their symptoms such as “swimming only”, the data were excluded from the analysis. Blank items left out were from 12 patients on the “alternating buttock pain” item (Berlin); 11 patients on “improvement with exercise” item (Calin, Berlin ASAS); 9 patients on the “awake second half of the night” (Berlin); 8 patients on the “insidious onset” item (Calin, ASAS). To conclude IBP criteria used for SpAs are met in a great proportion by patients with FM. Back pain, MS and age of onset related question are those met by most of FM patients while the effect of exercise better discriminates SpAs from FM.

E. ROUSSOU, MD
A. GEORGIOU, MD

Rheumatology and Rehabilitation, Barking Havering and Redbridge University Hospitals NHS Trust, King George Hospital, London, UK.

Address correspondence to:
Dr Euthalia Roussou, Dept. of Rheumatology and Rehabilitation, Barley Lanes, Goodmayes, Ilford, Essex IG3 8YB, United Kingdom.
E-mail: thaliaroussou@hotmail.com

Competing interests: none declared.

References

1. RUDWALEIT M, VAN DER HEIJDE, LANDEWÉ R *et al*.: The development of assessment of spondyloarthritis international society (ASAS) classification criteria for Axial Spodyloarthritis (part II). Validation and final selection. *Ann Rheum Dis* 2009; 68: 777-783.
2. CALIN A, PORTA J, FRIES JF *et al*.: Clinical history as a screening test for ankylosing spondylitis. *JAMA* 1977; 237: 2613-4.
3. RUDWALEIT M, METTER A, LISTING J, SIEPER J, BRAUN J: Inflammatory back pain in Ankylosing Spondylitis: A reassessment of the clinical history for application as classification and diagnostic criteria. *Arthritis Rheum* 2006; 54: 569-78.
4. SIEPER J, VAN DER HEIJDE D, LANDEWÉ R *et al*.: New criteria for Inflammatory back pain in patients with chronic back pain: A real patient exercise by experts from the Assessment of Spondyloarthritis International Society. *Ann Rheum Dis* 2009; 68: 784-8.
5. WOLFE F, CLAUW DJ, FITZCHARLES MA *et al*.: Fibromyalgia criteria and severity scales for clinical and epidemiological studies: A modification of the ACR preliminary diagnostic criteria for Fibromyalgia. *J Rheumatol* 2011; 38; 1113-22.
6. WOLFE F, SYMTHE HA, YUNUS MB *et al*.: The American College of Rheumatology 1990 criteria for the classification of fibromyalgia. Report of the Multicenter Criteria Committee. *Arthritis Rheum* 1990; 33: 160-72.
7. ZACHRISSON O, REGLAND B, JAHRESKOG M, KRON M, GOTTFRIES CG: A rating scale for FM and chronic fatigue syndrome (the fibrofatigue scale) *J Psychosom Res* 2002; 52: 501-9.
8. PACI E: Assessment and validity of an Italian version of the Rotterdam symptom checklist. *Qual Life Res* 1992; 1: 129-34.
9. BENNETT RM, FRIEND R, JONES KD *et al*.: The revised fibromyalgia impact questionnaire (RFIQ): validation and psychometric properties. *Arthritis Res Ther* 2009; 11: R120.
10. ROUSSOU E, CHOPRA S, NGANDU DL: Phenotypic and clinical differences between Caucasian and South Asian patients with psoriatic arthritis living in North East London. *Clin Rheumatol* 2013; 32: 591-9.