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Letter to the Editor

Impact of ACR 2010 fibromyalgia criteria fulfillment on disease activity evaluation in patients with axial spondyloarthritis treated with infliximab



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Spondyloarthritis and fibromyalgia can coexist and share some clinical features. Several studies have attempted to evaluate the consequences of overlap between the two diseases on the diagnosis, disease activity and function of axial spondyloarthritis

[1–4]. The aims of this present study were two-fold: first, to define the prevalence of patients fulfilling both the ASAS 2009 criteria for axial spondyloarthritis and the ACR 2010 criteria for fibromyalgia and; second to analyze the differences in spondyloarthritis activity between these patients treated with infliximab.

We performed a cross sectional observational study from March 2012 to March 2013 in the department of Rheumatology at Rouen University Hospital. Fifty-one patients with axial spondyloarthritis (30 women and 21 men) were included. All 51 patients fulfilled the ASAS 2009 criteria for axial spondyloarthritis, 12 in the clinical arm and 39 in the imaging arm. Patients were treated with infliximab. The following items were collected: VAS for pain and for patient global disease activity, number of tender joints, MASES score, number of Yunus tender points, levels of ESR and C-reactive protein as well as values of BASDAI, BASFI, HAQ, FACIT-13, SF-36, FiRST. In addition, we collected data on satisfaction with the modified ACR 2010 criteria for fibromyalgia.

Table 1
 Characteristics of 51 axial spondyloarthritis patients.

	Axial SPA (n = 51)	FM- (n = 27)	FM+ (n = 24)	P*
Age	47.8 ± 10.91	48 ± 12	47.6 ± 9.7	NS
Women, n (%)	30 (58)	13 (48)	17 (70)	0.1
Height (m)	1.69 ± 0.09	1.7 ± 0.1	1.7 ± 0.1	NS
Weight (kg)	79.3 ± 17.8	78.2 ± 18.7	80.5 ± 17.1	NS
BMI (kg/m ²)	27.8 ± 6.09	27.2 ± 6.2	28.5 ± 6.1	NS
B27+	31 (61)	17 (63)	14 (58)	NS
Radiographic sacroiliitis	24(17)	19 (70)	5 (21)	<0.001
MRI sacroiliitis	18 (35)	7 (26)	11 (46)	NS
Abnormal CRP, X-Ray and MRI negative	0	0	0	NS
Duration of axial spondyloarthritis (years)	17.45 ± 11.38	16.2 ± 9.4	18.9 ± 13.4	NS
Number of infliximab perfusions	26.59 ± 18.79	30.3 ± 18.6	22.4 ± 18.5	NS
Dose of infliximab (mg/kg)	4.57 ± 0.9	4.4 ± 1	4.7 ± 0.8	NS
Anti-TNF before infliximab	25 (49)	10 (37)	15 (62.5)	0.09
Patient Global Disease Activity VAS/10	4.73 ± 2.6	3.4 ± 2.4	6.2 ± 2	<0.0001
Pain Visual Analog Scale/10	4.79 ± 2.70	3.6 ± 2.7	6.2 ± 1.9	<0.001
Number of tender joints/28	3.9 ± 6.17	1.7 ± 3.5	6.4 ± 7.6	0.0001
MASES Score/13	5.08 ± 4.65	2.8 ± 4.1	7.7 ± 3.9	<0.0001
Number of Yunus tender points/18	5.8 ± 5.51	3.2 ± 4.1	8.7 ± 5.4	0.0001
BASDAI	46.1 ± 23.7	31 ± 19.9	63.2 ± 14.2	<0.0001
BASFI	43.1 ± 28.1	31.5 ± 24.2	56.1 ± 26.8	<0.01
CRP (mg/L)	4.62 ± 3.9	4.6 ± 3.8	4.6 ± 4.2	NS
ESR (mm)	10.8 ± 9.9	9.4 ± 6.9	12.5 ± 12.4	NS
ASDAS CRP	2.4 ± 0.9	1.9 ± 0.7	3 ± 0.8	<0.0001
ASDAS VS	2.3 ± 0.9	1.8 ± 0.7	2.9 ± 0.9	<0.0001
HAQ	1.02 ± 0.8	0.7 ± 0.6	1.4 ± 0.8	<0.01
FACIT	25.9 ± 12.3	33.4 ± 11.4	17.5 ± 6.4	<0.0001
SF-36 Physical	43.2 ± 23.2	55 ± 22.4	29.9 ± 16.1	<0.0001
SF-36 Mental	48.8 ± 24.9	62.8 ± 22	33.2 ± 17.9	<0.0001
Fibromyalgia according to the FiRST score	20 (39)	4 (15)	16 (67)	<0.001

SPA: spondyloarthritis; FM: fibromyalgia; BMI: Body Mass Index; ACR: American College of Rheumatology; VAS: Visual Analog Scale; MASES: Maastricht Ankylosing Spondylitis Enthesitis Score; BASDAI: Bath Ankylosing Spondylitis Disease Activity Index; BASFI: Bath Ankylosing Spondylitis Functional Index; CRP: C-reactive protein; ESR: Erythrocyte Sediment Rate; ASDAS: Ankylosing Spondylitis Disease Activity Score; HAQ: Health Assessment Questionnaire; FACIT: Functional Assessment of Chronic Illness Therapy; SF-36: Short Form Health Survey; FiRST: Fibromyalgia Rapid Screening Tool. Results are reported as means ± standard deviation.

* P < 0.05: considered significant.

Patients' characteristics are reported in Table 1. Two groups of patients were identified: patients with fibromyalgia (24; 47%) and patients without fibromyalgia (27; 53%). A total of 61% percent of all patients presented HLA-B27. Baseline characteristics were similar between the groups. In the FM+ group, 70% of patients were women, compared to 48% in the FM-group ($P=0.1$). In the FM-group, 70% of patients had radiographic sacroiliitis, compared to 21% in the FM+ group ($P=0.0006$). All settings, except ESR and C-reactive protein, were significantly different in patients with fibromyalgia. FM+ patients had significantly more tender joints and Yunus tender points ($P<0.0001$). VAS, MASES, FiRST and all disease activity indices were significantly higher in FM+ patients (BASDAI, ASDAS-CRP, ASDAS-VS) ($P<0.0001$). FACIT and SF-36 scores were significantly lower in FM+ patients ($P<0.0001$).

In our study, the prevalence of fibromyalgia (47%) was higher than in the literature [1–4]. This prevalence must be carefully considered given the small number of patients with long duration spondyloarthritis and treated by an intravenous treatment in hospitalization. A Spanish study conducted in 2016 in 185 patients fulfilling the ASAS 2009 criteria for spondyloarthritis, found a prevalence of fibromyalgia (according to the FiRST score) of 21.1% [5]. In a recent study, by Molto et al. in 508 patients suffering from axial spondyloarthritis, prevalence of fibromyalgia was 37.8% (according to the FiRST score) [6]. Even if our study has some limitations, we used the most recent classification criteria for fibromyalgia and spondyloarthritis [7–9]. We have shown that patients treated with infliximab fulfilling the ACR 2010 criteria for fibromyalgia had more severe spondyloarthritis disease activity. The impact of fibromyalgia on disease activity has already been reported in the literature, in patients with spondyloarthritis [5,6]. Based on this observation, we question whether disease activity scores for spondyloarthritis are sufficiently reliable in cases of concomitant fibromyalgia.

Disclosure of interest

The authors declare that they have no competing interest.

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