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EDITORIAL

Spondyloarthritis and fibromyalgia: interfering association or differential diagnosis?

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Spondyloarthritis (SpA) is a chronic inflammatory disease with several phenotypes [1], with a prevalence of 0.3 to 1 % in Caucasian populations, characterized by predominantly axial disease and enthesis involvement, associated with widespread pain and fatigue. Fibromyalgia is a condition of chronic diffuse pain with fatigue and tender points that may be associated with inflammatory diseases such as Sjogren syndrome, inflammatory bowel disease, or SpA.

These two conditions may therefore share common features, and this may interfere with early diagnosis at the one hand, and with disease activity evaluation at the other hand.

Pain is the most frequent symptom in SpA, particularly in early stages [2], and part of the tools of disease and activity evaluation (BASDAI: Bath Ankylosing Spondylitis Disease Activity Index, ASDAS: Ankylosing Spondylitis Disease Activity Score). However, pain is subjective and may be influenced by psychologic status [3].

Fatigue is also frequently reported by patients with SpA. Fatigue may be evaluated using several tools and represents the item 1 of the BASDAI. In a postal survey of 451 patients, frequent and severe fatigue is mentioned by 75 % of the patients [4], and in 67 % from a Canadian cohort of 681 patients, similar between ankylosing spondylitis and nonradiographic axial SpA [5]. In a controlled study, prevalence of fatigue was 73 % among 64 AS patients and 30 % among 95 controls (p 0.001) [6]. Fatigue is correlated with Ankylosing Spondylitis Quality of Life questionnaire (ASQoL), Bath Ankylosing Spondylitis Functional Index (BASFI), BAS DAI, and depression [6]. In a cross-sectional multicentric study (REGISPONSER) including 2251 patients with SpA, high fatigue score was related with female sex, ASQoL, stiffness, vertebral pain, and patient's global assessment of disease activity [7]. In a cross-sectional study of 266 patients with SpA, fatigue VAS over 50 mm was found in half of the population and associated with BASDAI, BASFI, and female gender, without difference in SpA subtypes [8]. In early axial SpA patients from the DESIR cohort (708 patients, 486 fulfilling ASAS criteria for axSpA at baseline), high fatigue at 12 months was associated with ASDAS-CRP, BAS-G, and female gender [9]. Another study about 67 patients with axSpA found that fatigue was associated with poorer quality of life, disease activity, and inflammatory bowel symptoms [10].

Taken together, these data demonstrate that fatigue is frequent in axSpA, often associated with disease activity and female gender.

Fibromyalgia is a condition of chronic widespread pain, associated with stiffness, fatigue and tender points, and other symptoms. Its etiology remains unknown, and the prevalence has been evaluated 2 to 7 % in the general population, with a female predominance [11]. The prevalence of fibromyalgia in SpA has been assessed in several studies using different criteria for fibromyalgia and different subsets of SpA. A Brazilian study on 71 patients with ankylosing spondylitis (modified New York criteria) found a prevalence of fibromyalgia (assessed by fibromyalgia impact questionnaire) of 15 % with a female predominance (3.8:1) [12]. A cross-sectional study on 462 patients with ankylosing spondylitis (REGI SPONSER) with the same tool found a global prevalence of

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4.1 and of 10.8 % in women [13]. Another cross-sectional study in Italy, on 402 patients with axial SpA (mNY and ASAS criteria), found an overall prevalence of fibromyalgia (according to ACR 2010 criteria) of 14.9 %, higher in women [14]. In a population of 60 patients with inflammatory back pain, 30 % fulfilled the clinical criteria for fibromyalgia (assessed by tender points) [15]. Finally, using a screening tool for fibromyalgia (FiRST) on 196 patients fulfilling ASAS criteria, the prevalence of fibromyalgia was 21.4 % [11], more frequently women.

Overlap of criteria or interference with classification?

A clinical overlap between enthesitis sites in patients with SpA and fibromyalgia tender points was significantly demonstrated [15]. In fact, some fibromyalgia tender points (1990 ACR criteria) are at the same location as enthesitis sites of some enthesitis indexes (MASES). This should not be mis interpreted. This may in part explain the higher frequency of enthesitis in SpA patient with associated fibromyalgia [11].

Similarities and differences between axial SpA and fibromyalgia were evaluated in a prospective study [16] of 214 patients diagnosed by a rheumatologist as fibromyalgia (n = 93), axial SpA (n = 91), or rheumatoid arthritis (n = 30). No fibromyalgia patient fulfilled ASAS classification criteria, but 14 and 34 % of axial SpA patients (without difference between nonradiographic axial SpA and ankylosing spondylitis) fulfilled 1990 and 2010 fibromyalgia criteria, respectively (and 30 and 46 % of RA patients). In the study of Bello [11], no difference in the prevalence of fibromyalgia was found between the patients fulfilling the clinical arm and those fulfilling the imaging arm of the ASAS criteria. In these studies, fibromyalgia presentation did not seem to interfere with classification, even if, in nonrx-axSpA, female gender is more prevalent, as in fibromyalgia.

Interference with disease activity assessment?

SpA patients with fibromyalgia have significantly higher values of indexes such as BASDAI, BASFI, ASQol [11–13], and higher frequency of enthesitis [11]. Presence of fibromyalgia may impair therapeutic response (or its evaluation) of anti-TNF therapy, whereas the percentage of patients with SpA exposed to anti-TNF was similar with and without fibromyalgia; the percentage of switchers was significantly higher and the duration and retention of the first anti-TNF was shorter in patients with fibromyalgia [11].

One common point between the two conditions is enthesopathy. The anatomic structure of enthese is the location of pain in both conditions, classically inflammatory in SpA and noninflammatory in fibromyalgia. Imaging by MRI or ultrasound is able to differentiate these two situations, but the underlying mechanisms are probably not so dichotomous, and some recent data about the role of mechanical stress in SpA are available [17].

It appears from these findings that there is an overlap for disease activity evaluation between SpA and fibromyalgia (e.g., pain, fatigue, and tenderness of entheses are included in the BASDAI and are also part of the severity evaluation of fibromyalgia). Associated fibromyalgia may increase the disease activity score in SpA; this may explain higher BAS DAI, ASDAS, BASFI, and ASQoL scores observed in the case of association with fibromyalgia. Therefore, fibromyalgia may also interfere with the evaluation of therapeutic response [11] and therefore may be associated with more frequent use of biologic treatments, as suggested for rheumatoid arthritis [18].

Fibromyalgia should be ruled out in SpA, using classification criteria [19] or screening tools (FiRST) [20], and this dimension should be taken into account in the diagnosis and mainly in disease evaluation [21] and therapeutic proposals.

Compliance with ethical standards

Disclosure None.

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