Systemic juvenile idiopathic arthritis versus adult-onset Still's disease: the pertinence of changing the current classification criteria

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To the Editor,

Systemic juvenile idiopathic arthritis (SJIA) is a rare systemic inflammatory disease, that represents a juvenile idiopathic arthritis (JIA) subtype, according to the international league of associations for rheumatology (ILAR) Classification Criteria for JIA. It differs from other JIA subtypes in terms of pathophysiology, extra-articular systemic involvement and treatment[1,2]. SJIA has a striking resemblance to Adult-onset Still`s disease (AOSD), mainly differing in terms of classification criteria[3,4].

The current ILAR classification criteria for SJIA is based on clinical and analytical manifestations in the first six months of illness and the presence of arthritis at presentation is mandatory[1]. On the other hand, the Yamaguchi criteria for adult onset Still's disease (AOSD) diagnosis, only require the presence of arthralgia for more than two weeks. Since arthritis can appear at any time over the course of the disease, sometimes years after the onset of systemic manifestations, its absence in early stages should not rule out the diagnosis. Therefore, a revision of SJIA classification criteria is of major importance[4].

SJIA and AOSD are very similar in terms of pathophysiology, since innate immunity plays a prominent role in both conditions. The overexpression of interleukins (IL) such as IL-1, IL-6, IL-18 and calcium binding proteins supports the hypothesis of this being considered an auto-inflammatory syndrome, rather than an autoimmune disease, unlike other types of JIA where the role of adaptive immunity is more pronounced[3,5].

SJIA and AOSD main symptoms are fever for more than two weeks, characterized by spikes of high fever (39°C) once or twice a day, that return to normal values during the rest of the day, along with one or more of the following: evanescent salmon-pink maculopapular rash, arthralgia, generalized lymphadenopathy, hepatosplenomegaly and serositis[3,6,7]. Since this is a diagnosis of exclusion, it is paramount to rule out other more frequent entities, such as infection, malignancy and other inflammatory conditions[2]. IL-1 and IL-6 inhibitors take an important role as treatment strategies for both entities[8].

Regarding its pathophysiology, clinic manifestations and treatment, SJIA is much more similar to AOSD than other JIA subtypes. There are some differences between the classification criteria (Table I). It has been argued, by many authors, that they are in fact the same disease, just happening in different age groups[3,9]. Bearing in mind that classification criteria often has an impact on clinical decision, especially in rare conditions, it seems mandatory to revise SJIA's criteria and make them more alike to AOSD. Indeed, a team with extensive experience in the evaluation of these patients has considered that a first step was taken to the possible and assertive future change of the current criteria. They emphasized that SJIA is considered equivalent to AOSD and argued that new criteria should take into account the problem of objective assessment of arthritis[9].

We hope these changes occur as soon as possible since sJIA has a high morbimortality rate, thus making a timely diagnosis fundamental in terms of prognosis[9]. We should be aware that even in the absence of arthritis, a highly suggestive clinical history of SJIA shouldn't rule out its diagnosis.

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TABLE I. COMPARISON BETWEEN THE ILAR AND YAMAGUCHI CRITERIA

ILAR Criteria	Yamaguchi Criteria
Arthritis in one or more joints, with or preceded by fever of at least 2 weeks duration (daily for at least 3 days), and accompanied by one or more of the following:	Arthralgia or arthritis ≥ 2 weeks Fever >39 °C, lasting 1 week or longer
Evanescent erythematosus rash	Typical rash*
Generalized lynph node enlargement	Leukocytosis >10,000/mm3 with >80% PMN cells
Hepatomegaly and/or splenomegaly	**Minor criteria**
Serositi	Odinophagy
Exclusion criteria	Hepatomegaly and/or splenomegaly
Psoriasis or a history of psoriasis in the patient or first degree relative	Abnormal liver function tests
Arthritis in an HLA-B27 positive male beginning after 6 birthday	Negative ANA and RF
Ankilosyng spondylitis, enthesitis related arthritis, sacroiliitis with inflamatory bowel disease, Reiter's syndrome, or acute anterior uveitis, or a history of one of these disorders in a first degree-relative	**Exclusion criteria** Infections Malignancies Other Rheumatic diseases
The presence of IgM RF on at least 2 ocasions at least 3 months apart	

Legend: Typical rash- evanescente, salmon-pink, maculo-papular eruption, predominant on proximal limbs and trunk; HLA-B27: Human Leucocyte Antigen-B27; IgM: Imunoglobulin M; RF: Rheumatoid factor;ANA: Antinuclear antibodies; PMN cells: Polymorphonuclear cells

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