



ORIGINAL REPORT

Guidelines for magnetic resonance imaging in axial spondyloarthritis: A Delphi study^{☆,☆☆}



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KEYWORDS

Axial spondyloarthritis;
Diagnosis;
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Delphi method

Abstract

Objective: The term axial spondyloarthritis refers to a group of chronic inflammatory rheumatic diseases with a common genetic basis that course with axial and peripheral involvement and enthesitis. Recently, the Assessment of SpondyloArthritis international Society (ASAS) established some diagnostic criteria, including for the first time magnetic resonance imaging (MRI) findings. Given the difficulties of obtaining MRI in some environments and the lack of experience with axial spondyloarthritis, a group of radiologists and rheumatologists sought to establish some practical guidelines to ensure the correct use of MRI in this disease.

Material and methods: Using the Delphi method, we used a questionnaire with 49 items stratified into 4 blocks to survey 46 experts in the MRI diagnosis of axial spondyloarthritis.

Results: The experts agreed on 82% of the items. The degree of agreement was 100% in the block "Importance of early diagnosis of axial spondyloarthritis", 69% in the block "Optimization of the use of MRI in the diagnosis of axial spondyloarthritis", 93% in the block "Use of MRI in axial spondyloarthritis: Technical aspects", and 57% in the block "Usefulness of MRI in the prognosis, follow-up, and evaluation of the response to treatment in axial spondyloarthritis".

Conclusions: Despite the importance of MRI in the early diagnosis of axial spondyloarthritis, this study shows the need for standardization and points to relative disagreement about how to use MRI in the follow-up of the disease and evaluation of the response to treatment. The results of this study can help improve the use of MRI in axial spondyloarthritis.

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PALABRAS CLAVE

Espondiloartritis axial;
Diagnóstico;
Resonancia magnética;
Método Delphi

Resonancia magnética en espondiloartritis axial: estudio Delphi sobre pautas de actuación y realización

Resumen

Objetivo: La espondiloartritis axial (EspA) pertenece a un grupo de enfermedades reumáticas inflamatorias crónicas que cursan con afectación axial, periférica y de entesis y tienen bases genéticas comunes. Recientemente, la *Assessment of SpondyloArthritis International Society* (ASAS) ha establecido unos criterios diagnósticos, incluyendo por primera vez la resonancia magnética (RM). Al ser esta una técnica de difícil acceso en determinados medios y ante la falta de experiencia con esta enfermedad, un grupo de radiólogos y reumatólogos propuso buscar recomendaciones prácticas para usarla correctamente.

Material y métodos: Encuesta realizada (método Delphi) a 46 expertos sobre el diagnóstico de EspA mediante RM, con 49 ítems estratificados en 4 bloques.

Resultados: Se consensuó el 82% de los ítems. El grado de consenso fue del 100% en el bloque «Importancia del diagnóstico precoz de la EspA», del 69% en la «Optimización del uso de la RM en el diagnóstico de la EspA», del 93% en el «Uso de la RM en la EspA: cuestiones técnicas», y del 57% en la «Utilidad de la RM en el pronóstico, seguimiento y valoración del tratamiento de la EspA».

Conclusiones: A pesar de la importancia de la RM para diagnosticar precozmente la EspA, este trabajo refleja la necesidad de estandarizarla, y pone de manifiesto una falta de consenso relativa sobre cómo usarla para seguir la enfermedad y valorar la respuesta al tratamiento. Se aportan recomendaciones para mejorar el uso de la RM para diagnosticar la EspA.

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Introduction

Spondyloarthritis (SpA's) is a group of diseases characterized by inflammatory affection of the axial skeleton and the peripheral articulations and entheses that share pathogenic mechanisms, genetic characteristics and extra-articular and radiologic manifestations. SpA's include ankylosing spondylitis (AS), reactive arthritis, psoriatic arthritis, arthritis associated with intestinal inflammatory disease, a subgroup of juvenile idiopathic arthritis and non-radiographic SpA.¹ Within this group, AS is the most frequent subtype, and its most specific lesion is sacroiliitis.² The prevalence of SpA is estimated between 0.23 and 1.8% of the overall population.¹ In Spain, the prevalence in patients with some SpA treated in rheumatologic services is 13% (range: 8–16%).³

The term "axial spondyloarthritis" is used to define all the SpA's in which the axial affection predominates, with or without visible structural damage in a simple radiography.^{4,5} SpA's range from an initial stage in which the typical symptoms of the SpA are not yet accompanied by radiologic manifestations (non-radiographic SpA) to fully established AS.⁵ There is evidence showing that patients with AS and patients with non-radiographic SpA have similar clinical manifestations and they require similar treatments regardless of whether there are radiographic lesions or not.⁴

To diagnose AS clinically, the modified New York criteria are mostly used⁵ (Table 1), which take into account clinical and radiologic considerations.⁶ However, they are very limited for the early diagnosis of AS due to its low sensitivity⁵⁻⁷ because in order to do so there must be at least one Grade 2 bilateral radiologic sacroiliitis or one Grade

3 or greater unilateral radiologic sacroiliitis which greatly delays diagnosis in most cases. In Spain the diagnosis of AS is delayed 8 years of average from the symptom onset.⁸ In general the delay postpones treatment, which reduces the quality of life, causes prolonged sick leaves and increases the economic burden of the disease.⁸ Due to the repercussion of the disease has on functional capacity it also reduces work productivity.⁹

The criteria developed by the Assessment of Spondyloarthritis International Society (ASAS) group in 2009 aim at facilitating the classification of non-radiographic SpA. These criteria have two entry arms, one of them is image sacroiliitis, which includes radiographic sacroiliitis or MR sacroiliitis.^{1,5,10} MRI despite its limitations (false positives, unavailability in many centers, bad tolerance in patients with claustrophobia, certain contraindications or high cost)^{11,12} allows the early seeing of the inflammatory lesions of the sacroiliacs and the vertebral structures.

It has been proven that patients on non-radiographic initial stages have a disease activity similar to that of AS and therefore, their life quality is deteriorated. Different studies have proven that continued treatment with non-steroidal anti-inflammatory drugs (NSAIDs) reduces the radiologic progression of AS.¹³⁻¹⁵ On the other hand, biological therapies with antagonists of the tumor necrosis factor (anti-TNF) (adalimumab, etanercept and infliximab) have proven their efficacy to improve the signs and symptoms of AS and modify the evolution of the disease.¹⁶ In patients treated with maintained anti-TNF α therapy, the radiographic progression is slower than in patients without this treatment.¹³ In patients who have not responded to the NSAIDs treatment, the anti-TNF α therapy has proven to be very effective in many cases,

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