

Extended Role Practitioners to Improve Access to Rheumatic Care: What is the Evidence in the Classification of Patients with Spondyloarthritis?



Axial spondyloarthritis (axSpA) is a chronic inflammatory disease that predominantly affects the axial skeleton¹. AxSpA is a type of SpA that includes nonradiographic as well as radiographic SpA, also referred to as ankylosing spondylitis¹. These 2 diagnoses may often be considered 2 stages of the same pathology². Patients with axSpA usually present with chronic low back and pelvis pain with morning stiffness. However, these symptoms are also present in patients with low back pain of other etiologies. Therefore, the diagnosis of SpA is a challenge for clinicians especially in the earlier stage of the disease^{3,4}. Early diagnosis and management of SpA is important because this pathology can cause major disability to the patients, who are often affected in the third decade of their lives^{4,5}. Moreover, patients with a delayed diagnosis have worse outcomes regarding bony pathologic changes, function or spinal mobility, because of the delay in initiating treatment with tumor necrosis factor blockers^{5,6}.

However, timely access to rheumatic care is limited in several countries as we observe a growth of the prevalence of arthritis and a decrease in the number of rheumatologists⁷. With the growing need for rheumatic and orthopedic care, models of care are emerging that include extended role practitioners (ERP) such as physiotherapists, occupational therapists, and nurses. In these models, the ERP are trained as skilled professionals to provide musculoskeletal or rheumatic care and act as the first-contact provider. The ERP may perform medical acts such as making a diagnosis, triaging surgical candidates, or prescribing medication or infiltrations^{8,9}. In response to the problem of access to rheumatologic care, clinicians' organizations and others have advocated for new models of care with ERP, including physiotherapists¹⁰, and training programs have also been developed such as the Advanced Clinician Practitioner in Arthritis Care (ACPAC) program in Toronto (Ontario, Canada) to train physiotherapists and occupational therapists

to act as ERP in rheumatology settings¹¹. To date, studies have examined and described the role of ERP in managing patients with inflammatory arthropathies, but have failed to examine agreement between ERP and physicians or the efficiency of these models^{12,13}. Studies that compared inter-observer agreement between ERP and physicians for musculoskeletal disorders have mostly been conducted in orthopedic settings^{8,14}. A recent study examined the ability of ERP in triaging patients with suspected inflammatory arthritis for priority assessment by a rheumatologist and the effect on access to care¹⁵. The results of the study are promising because ERP and rheumatologists presented almost perfect agreement ($\kappa = 0.92$, 95% CI 0.84–0.99) in determining whether patients are suspected of having inflammatory arthritis. There was also a 40% reduction in time-to-treatment decision for priority patients in the model including the ERP¹⁵. However, no study to date had assessed the ability of ERP in the management of other rheumatic diseases such as axSpA.

The study by Passalent, *et al*¹⁶ in this edition of *The Journal* aims to compare clinical impression and confidence between ERP and rheumatologists according to the classification of patients with chronic low back pain suspected of axSpA and agreement for magnetic resonance imaging (MRI) prescription to confirm initial findings. A cohort of 57 patients was referred from community primary care physicians or physiotherapy clinics as well as gastroenterology or ophthalmology clinics, because SpA can present extraarticular manifestations such as inflammatory bowel disease and anterior uveitis. Participants were evaluated by an ERP at the Toronto Western Hospital Spondylitis Screening Clinic⁶. Included participants were 45 years old and younger and had complaints of back pain for more than 3 months with no previous diagnosis of axSpA. They were evaluated by an experienced ERP certified as an

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ACPAC¹¹ who collected patient's back pain history, laboratory study and plain radiography results, and performed a physical examination. The information was collected on a standardized data collection form by the ERP. These data were presented as a "paper patient" to 2 staff rheumatologists and 1 rheumatology fellow. The ERP as well as the 3 physicians classified the patients as axSpA, mechanical back pain, or "other," and specified whether further investigation with MRI was indicated. Agreement between providers for back pain classification and MRI recommendations was evaluated with percent agreement, Cohen's κ coefficient, and Prevalence-Adjusted Bias-Adjusted κ (PABAK). The PABAK statistic has the advantage of taking into account the prevalence of the classification¹⁷. Impression of axSpA as evaluated by ERP and rheumatologists varied from 35.7 to 55.4% of the cases. Agreement between the ERP and the rheumatologist consensus was moderate with a Cohen's κ of 0.5 and a PABAK of 0.51. Agreement between rheumatologists was also moderate with Cohen's κ ranging from 0.49 to 0.58 and PABAK ranging from 0.48 to 0.59. Moderate agreement was found between the ERP and rheumatologist consensus for MRI references with a Cohen's κ of 0.43 and a PABAK of 0.42. Interestingly, the agreement between rheumatologists was only fair with Cohen's κ ranging from 0.27 to 0.47 and PABAK ranging from 0.26 to 0.48 for MRI prescription.

This study is particularly relevant in the actual context where access to rheumatic care is limited. To our knowledge, this is the first study to evaluate interrater agreement between an ERP and rheumatologists for the classification of axSpA. Moreover, the results show that classification by ERP leads to similar levels of agreement with rheumatologists as between rheumatologists, meaning that ERP may be a solution to improve access to rheumatic care. One element that was not addressed in the present study is the safety of using ERP in a triage role; the patient's outcome can be harmed by a delay in the diagnosis⁵.

Diagnostic agreement studies in ERP models usually compare clinical impression between ERP and physicians. Even though the objective of agreement studies, including the study by Passalent and colleagues¹⁶, is not to evaluate the accuracy of the ERP, these studies aim at determining whether the ERP offers comparable care to the traditional medical care. Thus, the clinical impression of the physician may be considered as the reference standard when there is no gold standard available. The article by Passalent, *et al*¹⁶ is interesting because the clinical impression was compared between physicians using the "paper patient." The use of a "paper patient," which may be seen as a limitation regarding validity, could actually be a promising solution for agreement studies. Indeed, the evaluation of the "paper patient" by several physicians, who could not possibly evaluate patients face to face, and the determination of a consensus for classification could be used in studies to reach

a higher level of confidence in the physician clinical impression as a reference standard¹⁸. Future studies should focus on the validity of the ERP's and rheumatologist's clinical examination for axSpA.

Interestingly, the moderate agreement between ERP and rheumatologists as well as between rheumatologists themselves in the study by Passalent, *et al*¹⁶ highlights the diagnostic complexity of axSpA. This situation is also reflected in the level of confidence of the providers in back pain classification in the study, which reached a median score of only 6 on a visual analog scale of 10 for the rheumatologists and 7/10 for the ERP, with a higher score representing a higher confidence level. Various classification criteria have been developed for axSpA⁴. Initially, many classifications relied in part on the presence of radiographic sacroiliitis. However, nonradiographic axSpA can incur great disability, which is as important as when radiographic axSpA is detected¹⁹. In 2009, Rudwaleit, *et al*, with the members of the Assessment of SpondyloArthritis international Society (ASAS), developed criteria that can be used to classify axSpA patients without radiographic changes²⁰. It was validated compared to the rheumatologist diagnosis in several cohorts and reached a pooled sensitivity and specificity of 73% and 88%, respectively, meaning that the classification criteria performed well in different cohorts²¹.

In the Passalent, *et al* study¹⁶, the providers had to classify patients as having either axSpA or mechanical low back pain. It is however not stated whether the providers used a classification system such as the ASAS classification. There is much debate around the difference between classification and diagnosis criteria^{22,23}. Traditionally, classification criteria were intended to be used for a group of patients in a research context, while diagnostic criteria were developed for use in clinical care of individual patients²². However, because diagnostic criteria require a valid gold standard, the use of a classification on an individual patient may assist the provider's diagnosis²³. The moderate agreement between providers in the study by Passalent, *et al*¹⁶ raises questions. Are the ERP and rheumatologists aware of the existence of these classification criteria? Do they use the criteria to assist in their diagnoses? Would the systematic use of classification criteria improve management of patients with axSpA? As mentioned by Passalent, *et al*¹⁶, there is a need to study the decision-making process of clinicians to better understand and improve their diagnostic capacities.

Despite the limitations regarding classification or diagnosis of axSpA, models of care including ERP in the management of axSpA may be valuable in improving access to rheumatic care. Further longitudinal studies with longterm followup, patient-reported outcomes, and measures of cost-effectiveness are needed to better understand the benefits and limitations of models including ERP in the diagnosis and management of axSpA and other rheumatologic conditions.

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