Expansion of the spectrum of inflammatory spinal disease: AS it was, as it is now

Understanding the nomenclature behind AS and axSpA

Nomenclature in medicine changes relatively infrequently and such changes can sometimes appear to obfuscate when the reasoning behind them is not popularized beyond specialists in that area. The rapid expansion of immunology and technology provides us with new insights into disease. These advances may require us to re-evaluate our perspective of disease and develop new nomenclature to embrace this knowledge. Nosological reclassification can result in a rationale for better treatment—the vasculitides are an example. We believe that adoption of the term axial spondyloarthritis (axSpA) to encapsulate the whole range of aseptic inflammatory spinal disease is a rational step, but one that must be understood and applied wisely to ensure that its use is maximized. We would like to clarify the clinical and possible therapeutic significance of this new nomenclature, which includes AS at the severe end of a spectrum of disease.

AS is a very descriptive name for a fully developed chronic inflammatory condition of the spine that can eventually result in ankylosis of spinal joints, including the sacroiliac joints. However, in early disease, ankylosis is not a feature either in juvenile or in adult forms. Moreover, we know that even in untreated patients, not all individuals will develop extensive ankylosis. The term AS also implies considerable structural change at diagnosis, which can be misleading and alarming for patients reading about this condition. Although the modified New York (mNY) Criteria [1] for diagnosing AS include radiographic (X-ray) evidence of sacroilitis, we know that a prolonged period of inflammation in the sacroiliac joints is necessary to result in the required radiographic changes. Thus if radiographic evidence of sacroilitis is used as a criterion for referral, diagnosis and treatment, many patients will suffer for years before effective treatment is given while others may never satisfy the mNY AS criteria.

Yet patients who do not show changes on X-rays may have as much disability and pain as those with established AS [2] and respond as well to anti-TNF therapy [3, 4].

When Moll and Wright [5] proposed linking several diseases under the umbrella term of spondarthritides in the early 1970s, it was a major advance in classification. AS was the central disease and it was only later that linking of diseases was vindicated by the identification of HLA-B27. MRI has added a new dimension, with the capacity to show sacroilitis and spinal lesions not visible on conventional radiography. However, obtaining the correct MRI protocol and having access to interpretation by specialist radiologists is vital, because not all MRI changes are necessarily due to inflammatory spinal disease. Repeat MRI scanning may also be necessary, as MRI changes of inflammation are not constant, and inflammatory disease may even be present without MRI changes [6]. As yet, we do not know how frequently early MRI changes might regress spontaneously or how this surrogate marker of inflammation links with the pathophysiology of structural damage. The group of patients with changes only demonstrable by MRI may be pathogenetically and prognostically heterogeneous, but some of these will progress to AS. Only additional longitudinal data will allow us to recognize the various subgroups within the inflammatory back pain spectrum and develop predictive outcome measures. Clearly there is a newly recognized spectrum of disease and we require new nomenclature to encapsulate its entirety.

The Assessments of SpondyloArthritis international Society (ASAS) has proposed that the term axial spondyloarthritis (axSpA) be applied to the entire spectrum of axial disease and they have agreed on classification criteria for diagnosis [7]. MRI appearances of the sacroiliac joints are a key component of these criteria (the imaging pathway), but the criteria also allow inclusion of patients who do not have imaging evidence of sacroilitis (the clinical pathway). This concept of axSpA put forward by the ASAS is shown in Fig. 1. The relative sizes of the three groups are currently unknown, nor the proportion that will progress to the right. Raised CRP, severe MRI sacroilitis, HLA-B27, male sex, young age at onset and hip disease are all poor prognostic indicators [8, 9] and presage progress to AS. While some patients with sacroilitis only demonstrable by MRI, referred to as non-radiographic axSpA (nr-axSpA), will never progress to AS, others will have disabling symptoms and will develop irreversible structural change. Ideally we wish to identify these latter patients and treat them with an effective disease-modifying therapy. Whether current treatment options can prevent or delay progression is as yet unknown, but TNF blockade is effective at suppressing MRI inflammation and improving subjective and objective measures [3, 4] of disease activity. We suggest that early diagnosis is the key and early treatment is most likely to be optimally effective. In the UK, however, patients must currently fulfil mNY criteria for AS to be able to receive...
National Institute of Clinical Effectiveness (NICE)-approved anti-TNF therapy. Denying treatment to patients who have not developed radiographic disease is no longer justifiable. For best care, treatment guidelines should apply to the entire spectrum of axSpA.

MRI has allowed us to see changes in inflammatory spinal disease that were previously not visible by X-ray. Because we could not visualize these abnormalities, we had neither a name for it, nor a rationale for its management. The nomenclature axSpA requires us to modify our guidelines for treatment of AS accordingly. We acknowledge that nr-axSpA probably represents a heterogeneous group of patients and the future delineation of subgroups and prognostic markers is of great importance [10]. However, for those individuals with severe inflammatory symptoms, the need for effective treatment is just as great as the need for those who show radiographic changes. It is crucial to ensure that we target those patients who will benefit most and use expensive therapies judiciously. Hence rheumatologists need the knowledge and expertise of the spectrum of axSpA.

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Amanda Isdale1, Andrew Keat2, Nick Barkham3, Alexander N. Bennett4,5, Karl Gaffney6, Helena Marzo-Ortega7 and Raj Sengupta8

1Department of Rheumatology, York Teaching Hospitals NHS Foundation Trust, York, UK, 2Department of Rheumatology, Northwick Park Hospital, Harrow, Middlesex, UK, 3New Cross Hospital, Wolverhampton, UK, 4DMRC Headley Court, Epsom, Surrey, UK, 5Academic Section of Musculoskeletal Disease, Chapel Allerton Hospital, University of Leeds, Leeds, UK, 6Department of Rheumatology, Norfolk & Norwich University Hospital NHS Foundation Trust, Norwich, UK, 7NIHR Leeds Musculoskeletal Biomedical Research Unit and University of Leeds, Leeds, UK and 8Royal National Hospital for Rheumatic Diseases NHS Foundation Trust, Bath, UK. Accepted 22 May 2013

Correspondence to: Amanda Isdale, York Teaching Hospital NHS Foundation Trust, Wigginton Road, York Y031 8HE, UK. E-mail: amanda.isdale@york.nhs.uk

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