Established Psoriatic Arthritis: Clinical Aspects

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ABSTRACT. Thirty-five years after the hallmark "Moll and Wright" publication, the rheumatology community continues to debate both classification criteria and subgroup analysis of this fascinating yet heterogeneous disease, psoriatic arthritis (PsA). Although Moll and Wright noted the predominant subgroup to be oligoarticular, using tighter definitions for each of the subgroups, historical archives suggest that a majority of their patients had polyarticular disease. One subgroup, arthritis mutilans, remains to be defined clinically, but data from the CASPAR study have been useful as a starting point. Both dactylitis and enthesitis are hallmark features of PsA, and new data on these manifestations are appearing. Dactylitis appears to be a severity marker not only within the affected digit but for the disease as a whole. Enthesitis remains an elusive clinical feature: recent data confirmed the poor association between clinical and ultrasonographic enthesitis in PsA. Finally, spinal disease in PsA is qualitatively and quantitatively different from classical ankylosing spondylitis, and a new scoring system combines elements of the BASRI and mSASSS to give a new modified index. (J Rheumatol 2009;36 Suppl 83:21-23; doi:10.3899/jrheum.090215)

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Thirty-five years on from the landmark report of Moll and Wright[1] the rheumatology community continues to use the 5 clinical subgroups suggested by these authors: distal interphalangeal predominant disease, spondylitis, oligoarthritis, symmetrical polyarthritis, and arthritis mutilans. Now, with the recent surge in interest in psoriatic arthritis (PsA), new data are emerging about the clinical significance and definition of these groups. Moreover, recent work has cast some doubt on the appropriateness of the groups[2]. This short article discusses these issues using 5 subheadings: symmetry, arthritis mutilans, spondylitis, dactylitis, and enthesitis.

SYMMETRY

It is generally accepted that less than 5 joints constitutes oligoarthritis, but Moll and Wright and others have not provided a definition of symmetry to characterize the 2 clinical groups of asymmetrical oligoarthritis and symmetrical polyarthritis. This is important as, in order to reproduce their findings, subsequent researchers need to be sure they are categorizing the patients in the same way. A mathematical definition of symmetry has now been proposed and this has demonstrated clearly that symmetry is strongly dependent on the number of joints involved[3]. In other words, people with oligoarthritis are inherently more likely to have symmetrical disease and those with polyarthritis are more likely to be symmetrical. Using these definitions it has now been possible to examine the original data of Wright[4] and Moll[5] and, interestingly, given this approach it is clear that the predominant subgroup for both of these authors was symmetrical polyarthritis (Wright 56%, Moll 84%). This, of course, is in contrast to the proportion given in the classic Moll and Wright article (15%), but in line with subsequent reported series[6,7].

ARTHRITIS MUTILANS

This clinical subgroup comprises about 5% of established series but represents a devastating consequence of this disease. From a physician and patient perspective it would be useful to identify those people who are going to develop such extensive articular destruction. Once more, however, we are faced with problems of definition – what clinical features comprise this subgroup? As part of the multinational ClASsification of Psoriatic ARthritis (CASPAR) study[8], physicians were asked if, in their opinion, the patient had arthritis mutilans. The comparative characteristics of this group are given in Table 1. From this comparison a tentative definition of arthritis mutilans can be derived (Table 2). Of interest is the comparatively high proportion of people with arthritis mutilans who are positive for anticyclic citrullinated peptide (CCP), a potential biomarker for this subgroup. This is consistent with previous work from the Bath group[9].

SPONDYLITIS

Spinal involvement in PsA is often asymptomatic so symptoms alone cannot identify involvement of this site and, indeed, spinal pain and stiffness are common symptoms, so neither can these be relied on to indicate spondylitis. Further, people may have radiographic spondylitis without radiographic sacroiliitis[10], which further complicates the definition of spondylitis, given that criteria for ankylosing spondylitis include radiographic sacroiliitis. For early diagnosis we are faced with the same problems as with ankylosing spondylitis – it takes about

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Table 1. Characteristics of patients with and without arthritis mutilans.

	Arthritis Mutilans	No Arthritis Mutilans
No.	21	567
Age, yrs	56	50
Gender, % male	48	52
Duration of disease, yrs	24	12
PASI	5.7	4.5
No. of joints involved	37	19
Dactylitis, %	29	26
Enthesitis, %	29	30
RF-positive, %	0	5
Anti-CCP-positive, %	25	7
HAQ score	0.9	0.8
Any joint surgery, %	48	13
Symmetry score	0.8	0.56
Radiological ankylosis, %	43	9
Radiological osteolysis, %	57	9
Radiological entheseal erosion, %	43	4
Spondylitis, %	14	8

PASI: Psoriasis Area and Severity Index; CCP: cyclic citrullinated peptide; HAQ Health Assessment Questionnaire; RF: rheumatoid factor.

Table 2. Towards a definition of arthritis mutilans.

Characteristics
• Polyarticular disease
• Symmetrical
• Long duration
• Radiological features*
• Positive for CCP

* Osteolysis, ankylosis, entheseal abnormalities, and spinal involvement. CCP: cyclic citrullinated pepride.

8 years for sacroiliitis to become apparent on plain radiographs, and the exact role of magnetic resonance imaging (MRI) changes in the sacroiliac joints has yet to be established. For established disease, validated tools for assessing severity have yet to be developed; for now, the Bath Ankylosing Spondylitis Radiology Index and the modified Stoke AS Spinal Score (mSASSS) have been adopted by default. Neither tool assesses the posterior elements of the spine. A new index, called the Psoriatic Arthritis Spondylitis Radiology Index (PASRI), has been developed[11]. This index is based on the mSASSS but also scores ankylosis of the cervical facet joints, giving a greater score range and more opportunity for change in longitudinal studies.

DACTYLITIS

Dactylitis is a hallmark feature of PsA and is a paradigm for the pathophysiology of the disease[12]. There is evidence that it is a marker for progression in the ipsilateral digit[13] and possibly a severity marker for PsA generally. Data from the CASPAR study (Table 3) indicate that people with current or previous dactylitis have more severe disease in terms of radiological changes, number of joints involved, and Psoriasis Area and Severity Index (PASI), but these changes are not marked. Data from Healy, et al indicate that many of the abnormalities present on MRI of the dactylitic digit are also present, although to a lesser extent, in adjacent uninvolved digits, so that overt clinical dactylitis may purely be a manifestation of disease severity[12]. Further longitudinal data on this are awaited.

Table 3. Characteristics of patients with and without dactylitis.

	Dactylitis	No Dactilytis
No.	309	277
Age, yrs	50	50
Gender, % male	58	46
Duration of disease, yrs	12.5	12.4
PASI	5.2	3.9
No. of joints involved	21	17
Enthesitis, %	60	35
RF-positive, %	3	6
Anti-CCP-positive, %	5	11
HAQ score	0.76	0.9
Symmetry score	0.65	0.64
Radiological ankylosis, %	11	10
Radiological osteolysis, %	13	9
Radiological entheseal erosion, %	7	4
Radiological distal interphalangeal joint erosion, %	26	16
Spondylitis, %	11	15

PASI: Psoriasis Area and Severity Index; RF: rheumatoid factor; CCP: cyclic citrullinated peptide; HAQ: Health Assessment Questionnaire.

ENTHESITIS

Enthesitis may be the sole clinical manifestation of psoriatic arthritis, a subgroup not mentioned by Moll and Wright. Indeed, the sometimes widespread pain seen in people with psoriasis without obvious synovitis may result from multiple sites of enthesitis. Enthesitis is a hallmark feature of spondyloarthropathy and may be important in pathogenesis. Clinically, a combination of Achilles insertion enthesitis and toe dactylitis is "diagnostic" of PsA.

However, there are problems with both assessment and the relationship between clinical evaluation and imaging. For the former, researchers have been "borrowing" tools from ankylosing spondylitis, but now an instrument specific for PsA has been developed[14] (Table 4). Further validation work is necessary, particularly in a larger cohort. Recent work from Leeds has looked at the

Table 4. Leeds Enthesitis Index (LEI) examination points.

LEI Examination Points
Lateral epicondyle, left and right
Medial femoral condyle, left and right
Achilles tendon insertion, left and right

relationship between tenderness at these sites and ultrasound evidence of enthesitis. Ultrasound of the Leeds Enthesitis Index sites was performed (blind to diagnosis) in a cohort of patients with PsA and a rheumatoid arthritis (RA) control population. Higher aggregate enthesitis scores were found in the group with RA. Further, agreement between clinical and ultrasonographic enthesitis was poor, a result previously found in patients with spondyloarthropathy[15]. However, ultrasound was not consistently abnormal in the absence of tenderness – discordance with clinical findings occurred in both directions. Further studies with MR imaging may serve to enlighten this issue but the approaches used, both clinical and imaging, should be reviewed carefully prior to further studies. Would, for example, the relationship between clinical enthesitis and imaging enthesitis be improved if not only tenderness but stress tenderness at the enthesis were elicited?

SUMMARY

Thirty five years after the hallmark Moll and Wright article, the rheumatology community continues to debate both classification criteria and subgroup analysis of this fascinating yet heterogeneous disease. Far from looking at this with dismay, we should all be buoyed by the continuing interest and look forward to further insights from clinical, imaging, and biological studies.

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