Diagnosis and treatment of psoriatic arthritis

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Psoriatic arthritis is a chronic, heterogeneous disease whose pathogenesis is unknown, although genetic, environmental, and immunologic factors play major roles. Psoriatic arthritis can follow an aggressive clinical course, and differentiating it from other arthropathies is sometimes difficult. Diagnosis of psoriatic arthritis is based on history, physical examination, the usual absence of rheumatoid factor, and characteristic radiographic features. At least 40% of patients with psoriatic arthritis develop radiographically detectable joint destruction; therefore, proper diagnosis and early treatment can have a significant impact on disease course and outcome. Understanding the pathogenesis of psoriatic disease has led to the use of several biologic agents that work by modulating T-cell signaling or by inhibiting key cytokines involved in inflammation, such as tumor necrosis factor (TNF). TNF inhibitors have demonstrated excellent efficacy in resolving skin and joint disease in patients with psoriatic arthritis and have been shown to be safe agents in various inflammatory disorders. This article reviews the diagnostic and treatment challenges of psoriatic arthritis as they relate to pathogenesis and burden of disease. (J Am Acad Dermatol 2005;52:1-19.)

Learning objective: At the conclusion of this learning activity, participants should have acquired a more comprehensive knowledge of our current understanding of the classification, clinical presentation, etiology, pathophysiology, differential diagnosis, and treatment of psoriatic arthritis.

Psoriasis is estimated to affect at least 7 million people in the United States, a figure substantially greater than previous estimates.[1-3] Between 5% and 42% of this group will develop psoriatic arthritis and require care for both skin and joint involvement.[4-6] This reported range of prevalence is wide owing to variable methods of ascertainment: more accurate recent studies place the prevalence toward the higher end of this range. In a 2002 National Psoriasis Foundation survey, persistent joint pain or stiffness was found in 31% of patients with psoriasis, indicating that many patients may be unaware of their disease.[7] Psoriatic arthritis has a tremendous impact on health-related quality of life. Measures of pain and limitations related to emotional upset indicate that psoriatic arthritis may have more of an impact on the quality of patients' lives than rheumatoid arthritis (RA) has.[8] Although patients with psoriatic arthritis may exhibit less joint tenderness than those with RA, the severity of joint inflammation has probably been underestimated in patients with psoriatic arthritis.[9] Joint deformity and radiologically detectable damage have been demonstrated in at least 40% of those afflicted with psoriatic arthritis, and in some cases, the disease may be as severe as RA.[10,11] Moreover, psoriatic arthritis is a lifelong condition and carries about a 60% higher risk of mortality relative to the general population, which is correlated with measures of disease severity such as radiologic damage at presentation.[12,13]

Abbreviations used:

ACR:	American College of Rheumatology
DIP:	distal interphalangeal
DMARD:	disease-modifying antirheumatic drug
ESR:	erythrocyte sedimentation rate
FDA:	Food and Drug Administration
HAQ:	health assessment questionnaire
HLA:	human leukocyte antigen
Ig:	immunoglobulin
IL:	interleukin
MTX:	methotrexate
NSAID:	nonsteroidal anti-inflammatory drug
PASI:	psoriasis area and severity index
RA:	rheumatoid arthritis
RF:	rheumatoid factor
SF-36:	short-form health survey containing 36 items
TNF:	tumor necrosis factor

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Funding sources: None.

Disclosure: Dr Mease is an investigator, advisor, and/or participant in the speakers' bureau for Abbott Laboratories, Amgen Inc, Aventis, Biogen, Inc, Boehringer Ingelheim, Centocor, Inc, Genentech, Inc, Idec Pharmaceuticals, Merck & Co, Inc, Novartis, Pfizer Inc, Pharmacia, Serono, Wyeth Pharmaceuticals, and Xoma. Dr Goffe is an investigator, advisor, and/or participant in the speakers' bureau for Amgen Inc, Biogen, Inc, Boehringer Ingelheim, Genentech, Inc, Centocor, Inc, Corixa Corporation, Fujisawa Healthcare Inc, and Idec Pharmaceuticals.

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0190-9622/$30.00

doi:10.1016/j.jaad.2004.06.013

Because treatments that improve psoriatic lesions do not necessarily improve joint symptoms and vice versa, distinguishing the patient with psoriatic arthritis is important in guiding therapy.

Each year in the United States, visits to physicians made principally for psoriasis number approximately 1.5 million, 80% of which are made to dermatologists.[14] Each visit is an opportunity for a dermatologist to assess for joint pain that may suggest the presence of psoriatic arthritis. However, the diagnosis of psoriatic arthritis can be difficult; other arthropathies, such as osteoarthritis, reactive arthritis, RA, and ankylosing spondylitis must be excluded.[15] The treatment options for psoriatic arthritis further complicate the management of this potentially debilitating disease. This review will discuss the challenges associated with diagnosis and treatment of psoriatic arthritis in relation to the pathogenesis and burden of the disease.

BURDEN OF DISEASE

Psoriatic arthritis is a lifelong recurring and remitting condition. Because severity fluctuates over time, so does the impact of the disease.[16] Both the skin and the joint components contribute to the disease burden. The problems associated with psoriasis include physical discomfort, disfigurement, and reduced quality of life, while the arthritic component adds to the burden with pain, swelling, stiffness, and reduced mobility and function.

The difficulties associated with psoriatic symptoms alone have been well documented. Fleischer et al studied 317 patients with diagnoses of psoriasis vulgaris.[17] They analyzed disease severity and its relationship to population characteristics on the basis of a questionnaire, the self-administered psoriasis area and severity index (PASI). Of the patients surveyed, 95% reported pruritus, 81% reported skin burning, and 86% reported sore skin. Notably, 69% reported joint pain. In addition, the average time spent in daily psoriasis care was reported to be 68 minutes. Similarly, in a survey of 17,425 patients with psoriasis, the most frequent symptoms reported were scaling (94%), itching (79%), skin redness (71%), skin tightness (31%), bleeding from the psoriatic lesion (29%), burning (21%), and fatigue (19%).[1] Of the respondents, 31% had had diagnoses of psoriatic arthritis.

Several studies have corroborated the profound impact that psoriatic symptoms have on quality of life. Rapp et al[18] compared the health-related quality of life of 317 patients with psoriasis with that of patients with other chronic medical conditions and found that the psoriasis group expressed lower physical and mental functioning than these other groups. Kirby et al[19] found a positive correlation between clinical findings and psychologic disability in a group of 101 patients.

The burdens of psoriasis become even greater when combined with arthritic symptoms. Symptoms of psoriatic arthritis include joint pain, pain at insertions of tendons and ligaments (enthesitis), stiffness, and fatigue. Physical signs of psoriatic arthritis include joint and enthesial swelling, "sausage" digits, and joint deformities. Radiologic manifestations include loss of joint space, bone and cartilage erosion, bony ankylosis, joint subluxation, periostitis, and subchondral cysts.[20] Inflammatory ocular disease is another manifestation sometimes seen with psoriatic arthritis and with the spondyloarthropathies in general.[20] The erosive nature of psoriatic arthritis results in progressive deformities and restriction of functional ability. For example, Gladman et al found that in a group of 220 patients with psoriatic arthritis, 11% reported marked restriction of daily activities, 43% had at least 1 deformity, and 16% had 5 or more deformed joints, which was defined as radiologic stage 4 on the basis of the American Rheumatism Association criteria for the classification of RA.[10] Radiographically, 67% had erosive disease, with 30% having ankylosis or joint destruction, or both.

Many studies document functional impairment in patients with psoriatic arthritis. Rapp et al[18] found that patients with psoriatic arthritis had significantly lower physical function scores and quality-of-life measurements than did patients with psoriasis alone. Krueger et al[1] reported that patients with psoriatic arthritis had difficulty using their hands (66%) standing for long periods (64%), and walking (63%). McKenna and Stern[21] reported that 43% of their psoriatic arthritis patients did not return to their place of employment because of the disease. Sokoll and Helliwell[22] reported that although patients with psoriatic arthritis had less severe joint involvement than those with RA, they had similar deficits in function and quality of life. They speculated that the accompanying skin disease could account for this finding. Similarly, Husted et al[8] reported that although patients with RA had more acute inflammatory disease, patients with psoriatic arthritis reported more role limitations because of emotional problems and more bodily pain. In addition to all of these complications, the course of psoriatic arthritis is unpredictable, with periods of relapse and remission, and the prognosis is dependent on many factors.[20,23]

CAUSE AND PATHOGENESIS

The pathogenesis and cause of psoriatic arthritis are multifactorial in nature; genetic, environmental, and immunologic factors play major roles in the