Comparative performance of psoriatic arthritis screening tools in patients with psoriasis in European/North American dermatology clinics

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Background: General practitioners/dermatologists may be aware of musculoskeletal symptoms in patients with psoriasis but may have difficulty accurately detecting psoriatic arthritis (PsA).

Objective: We sought to evaluate 3 PsA screening questionnaires—the Psoriasis and Arthritis Screening Questionnaire (PASQ), Psoriasis Epidemiology Screening Tool (PEST), and Toronto Psoriatic Arthritis Screen (ToPAS)—based on rheumatologist assessment in patients with psoriasis.

Methods: Consecutive unselected patients with psoriasis, initially evaluated by dermatologists for plaque psoriasis, were randomized to receive 1 of 3 questionnaires. Patients were subsequently evaluated by rheumatologists to establish/exclude clinical PsA diagnosis. Using clinical PsA diagnosis as the standard for comparison, questionnaire accuracy was assessed by calculating sensitivity/specificity and positive/negative predictive values.

Results: Of 949 patients with psoriasis evaluated by rheumatologists, 285 (30%) received a clinical diagnosis of PsA (95% confidence interval 27%-33%). Probable PsA was detected in 45.1%, 43.0%, and 42.9% of patients using PASQ, PEST, and ToPAS, respectively. Sensitivity ranged from 0.67 to 0.84; specificity, 0.64 to 0.75; positive predictive value, 0.43 to 0.60; and negative predictive value, 0.83 to 0.91.

Limitations: Not all patients completed all questionnaires; lack of standardized diagnostic criteria introduced possible bias.

Conclusion: PASQ, PEST, and ToPAS are useful screening tools that can help dermatologists identify patients without PsA and patients with possible PsA who may benefit from rheumatologist assessment. (J Am Acad Dermatol 2014;71:649-55.)

Key words: assessment; dermatologist; diagnosis; psoriasis; psoriatic arthritis; rheumatologist prevalence; screening.

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Psoriatic arthritis (PsA) is a chronic potentially disabling inflammatory arthritis that affects an estimated 7% to 48% of individuals with psoriasis.[1] Although once considered a benign disease, PsA has been associated with joint damage similar to that observed in rheumatoid arthritis.[2] Nearly half of patients with PsA have radiologic erosions within 2 years of the condition's onset and patients frequently develop arthritis symptoms several years before receiving a diagnosis of PsA.[3] According to a recent National Psoriasis Foundation survey, nearly one third of patients with psoriasis and PsA remain without a diagnosis for more than 2 years after they first experience symptoms.[4]

Several factors may explain the reported delays in PsA identification. General practitioners and dermatologists, the principal health care providers for patients with psoriasis, may lack proficiency in evaluating musculoskeletal disease and often face time constraints, limiting their ability to conduct a thorough assessment of patients' joints or extremities. Patients with psoriasis may not be aware of the relationship between musculoskeletal and skin diseases and therefore may not report having signs and symptoms of the former, even when present. A number of simple patient-administered screening tools have been developed to help general practitioners and dermatologists improve detection of potential PsA, possibly resulting in earlier referral for evaluation and treatment by rheumatologists and reduced risk of joint destruction and disability. The Psoriasis and Arthritis Screening Questionnaire (PASQ) is a tool developed in patients with both early and established PsA that includes 10 questions on arthritis and nail signs/symptoms and a diagram on which patients indicate painful and swollen sites.[5] The reported sensitivity and specificity of the PASQ tool are 92% and 75%, respectively. The Psoriasis Epidemiology Screening Tool (PEST), developed in a psoriasis population seen in a primary care setting, consists of 5 questions and a manikin, which does not contribute to the discriminative value of the questionnaire but allows for quick identification of problematic joints.[6] The PEST has been reported to have a sensitivity and specificity of 92% and 78%, respectively. Finally, the Toronto Psoriatic Arthritis Screen (ToPAS) is a tool used to screen for both psoriasis and PsA that includes 35 questions and photographs of psoriatic skin and nails and arthritic/dactylitic joints and digits.[7] Validated in both dermatology and rheumatology clinics, the ToPAS tool has a reported sensitivity of 87% and specificity of 93%.

CAPSULE SUMMARY

- Many patients with psoriasis and psoriatic arthritis do not receive a timely diagnosis.
- Screening questionnaires detected probable psoriatic arthritis in 43% to 45% of patients with psoriasis, with acceptable sensitivity/specificity and good negative predictive value.
- These tools can help dermatologists identify patients with psoriasis without psoriatic arthritis and patients who could benefit from rheumatologist assessment.

The aim of this study was to evaluate the above-mentioned PsA screening tools against the gold standard of a clinical diagnosis of PsA based on a rheumatologist's assessment in patients with psoriasis seen in dermatology centers and participating in the Prevalence of Psoriatic Arthritis in Adults with Psoriasis: An Estimate From Dermatology Practice (PREPARE) study (ClinicalTrials.gov, NCT01147874).

METHODS

Study design

PREPARE was a multicenter noninterventional study conducted to estimate the prevalence of PsA in patients with psoriasis presenting to dermatologists' offices and evaluated by rheumatologists. The methodology used to assess the primary and secondary end points of the PREPARE study has been published.[8] Consecutive adult patients with plaque psoriasis were enrolled at 34 dermatology centers in 7 European and North American countries (Belgium, Canada, Denmark, France, Germany, Hungary, and the United States). Enrolled patients were initially evaluated by a dermatologist for plaque psoriasis, and those confirmed as having this condition, regardless of its severity, were randomly assigned to complete 1 of the following 3 screening questionnaires: the PASQ,[5,9] the PEST,[6,10] or the ToPAS.[7,11] Patients were subsequently assessed by a rheumatologist, who determined whether PsA was present based on medical history, physical examination, and laboratory test findings. Clinical laboratory evaluations included complete blood cell count, C-reactive protein level, erythrocyte sedimentation rate, rheumatoid factor level, mean platelet volume, and urine chemistry.

All patients enrolled in the PREPARE study were required to sign an informed consent form, which was reviewed and approved by the respective independent ethics committees or institutional review boards at participating dermatology centers. The study was conducted in compliance with the ethical principles of the Declaration of Helsinki and