Psoriasis Epidemiology Screening Tool (PEST): A Report from the GRAPPA 2009 Annual Meeting

PHILIP S. HELLIWELL

ABSTRACT. Patients with psoriasis attending general practitioner and dermatology clinics may complain about their joints, but it may be difficult for the nonrheumatologist to distinguish psoriatic arthritis (PsA) from other forms of arthritis. A screening tool for PsA would therefore be useful to both general practitioners and dermatologists and help identify patients for further evaluation by a rheumatologist. Although several screening tools have been developed, the Psoriasis Epidemiology Screening Tool (PEST) has the advantage of simplicity and ease of use. This new instrument consists of 5 simple questions supported by the addition of a manikin for patient markup. During development, the questionnaire has shown a sensitivity of 0.94 and a specificity of 0.78. Further validation of this and the other questionnaires is now required. A "head to head" study of the PEST, ToPAS (Toronto Psoriatic Arthritis Screening questionnaire), and PASE (Psoriatic Arthritis Screening and Evaluation) tools is planned in a secondary-care population with psoriasis. This study is important not only to confirm the comparative performance of the instruments, but also to confirm the high figures for sensitivity in a secondary-care population. (J Rheumatol 2011;38:551–2; doi:10.3899/jrheum.101119)

Key Indexing Terms:
PSORIATIC ARTHRITIS   SCREENING   QUESTIONNAIRE
PSORIASIS EPIDEMIOLOGY SCREENING TOOL   PSORIASIS

In a presentation at the 2009 annual meeting of GRAPPA (Group for Research and Assessment of Psoriasis and Psoriatic Arthritis) in Stockholm, Sweden, the author described the development of the Psoriasis Epidemiology Screening Tool (PEST), which was developed to screen for psoriatic arthritis (PsA) in patients with psoriasis[1].

The questions used in the development of PEST were derived from the Psoriatic Arthritis Questionnaire (PAQ), an instrument originally developed in Canada in the late 1990s and modified by Alenius, *et al*[2]. To the core questions in that questionnaire were added other questions used in epidemiological surveys in France[3] and a final question about dactylitis, making 16 questions in all. These questions, together with a figure of a manikin for patient markup[1], were sent by post to a sample of patients with psoriasis identified from the electronic databases of 2 large general practices in Bradford, West Yorkshire, UK. Subsequently, a random sample of respondents was invited for a full examination in the rheumatology clinic of St. Lukes Hospital, Bradford, where the presence of PsA was established, using the CASPAR (Classification of Psoriatic Arthritis) criteria. This process enabled a more complete statistical analysis of the value of individual questions in detecting the presence of PsA, and the significant predictors were entered into a multivariate model to enable data reduction and the elimination

Table 1. Results of receiver operating characteristic curve analysis of the Psoriasis Epidemiology Screening Tool (PEST) and the Psoriatic Arthritis Questionnaire (PAQ) (Swedish modification).

	AUC (95% CI)	Sensitivity	Specificity
PAQ	0.76 (0.69–0.85)	0.63	0.72
PEST	0.91 (0.86–0.97)	0.92	0.78

AUC: area under the curve; CI: confidence interval.

of redundancy. The resulting more concise 5-question PEST instrument is shown in Figure 1. The comparative performance of the PEST and the PAQ (Swedish modification) was examined by receiver-operating characteristic (ROC) analysis and is reproduced in Table 1.

The PEST questionnaire is a useful tool for screening for PsA in patients with psoriasis, but further validation and comparison with other tools is required. A study based in secondary care and comparing the PEST, ToPAS, and PASE tools is under way in the UK.

REFERENCES

1. Ibrahim GH, Buch MH, Lawson C, Waxman R, Helliwell PS. Evaluation of an existing screening tool for psoriatic arthritis in people with psoriasis and the development of a new instrument: the Psoriasis Epidemiology Screening Tool (PEST) questionnaire. Clin Exp Rheumatol 2009;27:469-74.
2. Alenius GM, Stenberg B, Stenlund H, Lundblad M, Dahlqvist SR. Inflammatory joint manifestations are prevalent in psoriasis: prevalence study of joint and axial involvement in psoriatic patients, and evaluation of a psoriatic and arthritic questionnaire. J Rheumatol 2002;29:2577-82.
3. Guillemin F, Saraux A, Fardellone P, Guggenbuhl P, Behier JM, Coste J. Detection of cases of inflammatory rheumatic disorders: performance of a telephone questionnaire designed for use by patient interviewers. Ann Rheum Dis 2003;62:957-63.

From the Section of Musculoskeletal Disease, University of Leeds, Leeds, United Kingdom.

P.S. Helliwell, DM, PhD, FRCP, Senior Lecturer in Rheumatology, University of Leeds.

Address correspondence to Prof. P.S. Helliwell, Section of Musculoskeletal Disease, University of Leeds, 2nd Floor, Chapel Allerton Hospital, Harehills Lane, Leeds, LS7 4SA, UK. E-mail: p.helliwell@leeds.ac.uk

	NO	YES
Have you ever had a swollen joint (or joints)?		
Has a doctor ever told you that you have arthritis?		
Do your finger nails or toe nails have holes or pits?		
Have you had pain in your heel?		
Have you had a finger or toe that was completely swollen and painful for no apparent reason?		

In the drawing below, please tick the joints that have caused you discomfort (i.e., stiff, swollen, or painful joints).
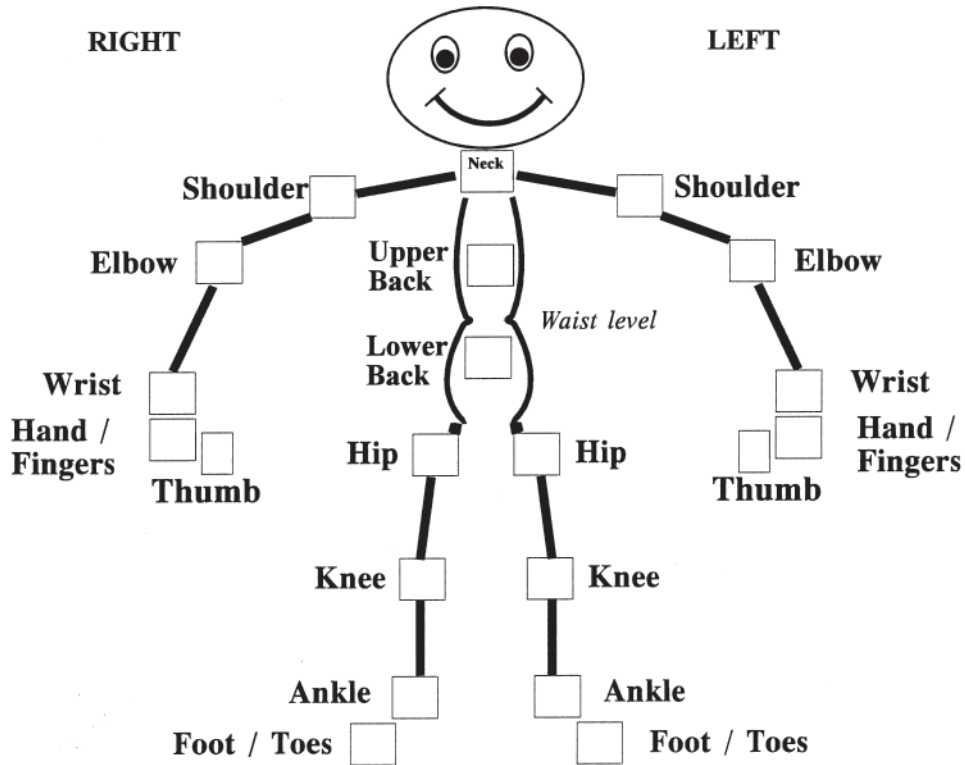

Figure 1. The PEST screening questionnaire for psoriatic arthritis (in people with psoriasis). Score 1 point for each question answered in the affirmative. A total score of 3 or more indicates psoriatic arthritis (sensetivity 0.97, specificity 0.79, positive predictive value 0.65, negative predictive value 0.99). From Ibrahim, et al. Clin Exp Rheumatol 2009;27:469-74; with permission.