The Journal of Rheumatology 2024;51 Suppl 2:93–5
doi:10.3899/jrheum.2024-0261
First Release July 15 2024

The Journal of Rheumatology

Introducing New GRAPPA Projects

Denis Poddubnyy[1], Gary J. Macfarlane[2], and Oliver FitzGerald[3]

ABSTRACT. Every year at the Group for Research and Assessment of Psoriasis and Psoriatic Arthritis (GRAPPA) annual meeting, new project ideas are presented and discussed with a view to obtaining feedback and support. Arising from previous work, a project proposal was presented at the 2023 meeting; the project aims to improve early diagnosis of psoriatic arthritis (PsA) by comparing a physician-based vs a patient questionnaire–based approach. This project has received the backing of the GRAPPA research committee, but additional funding will be required. A second project, approved by GRAPPA, was presented on delivering an epidemiology training module before the GRAPPA annual meeting in 2024, which will target both established GRAPPA clinicians and trainees. Attendance at such a module would enhance the quality of research in psoriatic disease.

Key Indexing Terms: diagnosis, education, GRAPPA, psoriasis, psoriatic arthritis

Introduction

Approximately 20% to 30% of people with cutaneous psoriasis (PsO) develop psoriatic arthritis (PsA),[1,2] making accurate and early diagnosis a priority. Accurate and early diagnosis are not often achieved for several reasons, including the following:

1. A lack of awareness among people with PsO that arthritis may develop or that joint pain can be linked to their skin condition. There is also a lack of awareness among general practitioners and dermatologists who may not recognize PsA symptoms arising in their patients.[2]

2. Disease heterogeneity and symptom variability can present difficulties that require a high index of suspicion as well as repeated and thorough assessments.

3. There are no diagnostic criteria or diagnostic tests, and the correct diagnosis often depends on the training and experience of the assessor.

4. One cannot depend on elevated acute-phase reactants, as it is frequently normal despite clinical evidence of inflammatory disease. One also cannot depend on radiographic assessment, as damage will take time to develop in most patients and is irreversible when it occurs.

5. Confusion with other common causes of musculoskeletal (MSK) symptoms such as osteoarthritis or fibromyalgia, many of which do not have diagnostic criteria or tests either and may co-occur in a patient with confirmed PsA.

6. Although there are several PsA screening questionnaires available that are generally sensitive for MSK symptoms, they have been poorly implemented and are not very specific for PsA.[3]

With all these challenges, it is clear that a strategy to improve the early and accurate diagnosis of PsA in people with cutaneous PsO is urgently required.

As the Group for Research and Assessment of Psoriasis and Psoriatic Arthritis (GRAPPA) has steadily expanded over the last 10 years, together with widening the research focus, register studies and epidemiological studies undertaken by GRAPPA have increased the need for researchers to learn and gain expertise in appropriate epidemiology techniques. A survey of GRAPPA members was therefore conducted to assess their needs in relation to epidemiological training and their interest in addressing these needs through a course in epidemiology to be held before the GRAPPA 2024 annual meeting.

In this paper, 2 project proposals, one of which addresses the issue of early PsA diagnosis and the other which addresses GRAPPA epidemiology training requirements, are presented and discussed.

Comparison of physician-based vs patient questionnaire–based approaches for PsA diagnosis

Traditionally, PsA diagnosis necessitates collaboration between dermatologists, who primarily manage skin manifestations of

As part of the supplement series GRAPPA 2023, this report was reviewed internally and approved by the Guest Editors for integrity, accuracy, and consistency with scientific and ethical standards.

[1]D. Poddubnyy, MD, PhD, Department of Gastroenterology, Infectiology and Rheumatology (including Nutrition Medicine), Charité – Universitätsmedizin Berlin, corporate member of Freie Universität Berlin and Humboldt-Universität zu Berlin, and Epidemiology Unit, German Rheumatism Research Centre, Berlin, Germany; [2]G.J. Macfarlane, MD, PhD, Aberdeen Centre for Arthritis and Musculoskeletal Health (Epidemiology Group), University of Aberdeen, Aberdeen, UK; [3]O. FitzGerald, MD, Conway Institute for Biomolecular Research, School of Medicine, University College Dublin, Dublin, Ireland.

DP has received research support from AbbVie, Eli Lilly, MSD, Novartis, and Pfizer; consulting fees from AbbVie, Biocad, BMS, Eli Lilly, Janssen, Moonlake, Novartis, Pfizer, and UCB; speaker fees from AbbVie, Canon, DKSH, Eli Lilly, Janssen, MSD, Medscape, Novartis, Peervoice, Pfizer, and UCB; and is a member of the ASAS executive committee and the GRAPPA steering committee. GJM and OF declare no conflicts of interest relevant to this article.

This paper does not require institutional review board approval.

Address correspondence to Prof. O. FitzGerald, Conway Institute for Biomolecular Research, School of Medicine, University College Dublin, Belfield, Dublin 4, Ireland. Email: oliver.fitzgerald@ucd.ie.

Accepted for publication March 10, 2024.

PsO, and rheumatologists, who are responsible for diagnosing and treating the MSK aspects of PsA. Despite advancements, the problem of correct identification of patients with a high probability of having PsA among patients with PsO persists.[4,5] Delayed diagnosis of PsA contributes to worse clinical outcomes.[6] Existing screening tools or questionnaires, such as the Psoriatic Arthritis Screening and Evaluation (PASE),[7] the Toronto Psoriatic Arthritis Screen (ToPAS)[8] and its further development (ToPAS 2),[9] the Psoriasis Epidemiology Screening Tool (PEST),[10] and the Early Psoriatic Arthritis Screening Questionnaire (EARP),[11] rely largely on patient-reported symptoms, potentially resulting in false positives and false-positive referrals. In response, there is growing consensus among professionals that supplementing patient questionnaires with basic MSK assessments by dermatologists could enhance the accuracy and improve the timing of PsA identification. In a recent survey of GRAPPA members, most of the participants (consisting of dermatologists, rheumatologists, and patient research partners), suggested that a basic evaluation of MSK symptoms by a dermatologist in addition to the patient-reported symptoms (questionnaire) should be part of the screening/referral process.[12]

The proposed study, under the umbrella of GRAPPA, aims to evaluate a novel approach for PsA detection that combines patient questionnaires with physician evaluations.

Study aim. This prospective multicenter study seeks to compare the diagnostic performance of a physician-based screening and referral strategy against a patient questionnaire–based approach in identifying patients with a high likelihood of having PsA among those with PsO.

Study design. The study will include patients with PsO who have not been previously evaluated for PsA. Those with PsO who have new MSK symptoms will also be eligible. Patients will undergo a 2-step screening process:

1. Questionnaire-based screening: Patients will complete the PEST questionnaire. Those scoring ≥ 3 out of 5 points will be labeled "PEST-positive" and be made eligible for referral.

2. Physician-based evaluation: Regardless of PEST results, dermatologists will perform standardized MSK assessments (after receiving standardized training on the assessment, which will be offered as a part of the study), including evaluation for the presence of peripheral arthritis, enthesitis, dactylitis, and axial symptoms (back pain). Dermatologists will be blinded to PEST outcomes.

PEST-positive and/or physician-positive patients will be referred to a rheumatologist for further evaluation. Rheumatologists will conduct a thorough evaluation, including collection of demographic data, clinical history, family history, and patient-reported outcomes; they will also conduct a physical examination focusing on MSK manifestations. The presence of PsA and confidence level in diagnosis will be recorded.

Outcomes and implications. The primary outcome will be the proportion of patients diagnosed with PsA using the different approaches. Subgroups will be analyzed based on PEST and physician evaluations, allowing for a detailed comparison of diagnostic strategies. The study will also evaluate the agreement between dermatologists and rheumatologists on the presence of MSK manifestations. Additionally, the effect of training the dermatologists on MSK symptom evaluation will be assessed.

Sample size and collaboration. Approximately 500 patients will be referred to rheumatologists for evaluation. This study involves collaboration between dermatology and rheumatology centers, with an anticipated 50 pairs of centers contributing. This approach will ensure a diverse patient pool for analysis.

Anticipated impact. The study's findings will lead to significant implications for improving PsA diagnosis. By introducing a dermatologist-delivered MSK evaluation alongside patient questionnaires, the study seeks to enhance diagnostic accuracy, minimize false positives, and alleviate the burden of unnecessary referrals to rheumatologists. This approach could lead to more timely interventions, better management of PsA, and potentially improved patient outcomes.

In summary, the proposed study represents an important effort to refine PsA diagnosis by combining patient questionnaires with dermatologist-delivered MSK evaluations. Through rigorous assessment and collaboration, this research aims to improve the screening process, ultimately benefiting individuals with PsO by offering quicker, more accurate PsA detection and management.

"Introduction to epidemiology" course at GRAPPA 2024

On the first day of the GRAPPA 2024 annual meeting in Seattle, a short course in epidemiology will be offered, with a view to providing members an understanding of basic issues that can be used to inform the design, completion, and analysis of GRAPPA (and other) studies.

Course content. The course will provide a brief introduction to some key issues in epidemiology:

1. Study design, including choosing the most appropriate study design for the research question, budget and timelines, and the opportunities and challenges of real-world evidence

2. Methodological issues, including bias and confounding, specific issues in studying PsA and PsO, and associations and causality

3. Analysis, including introduction to statistical models.

These topics have been informed by a survey of GRAPPA members conducted prior to the GRAPPA 2023 meeting. The format will be a series of short lectures followed by attendance at 2 of 4 hands-on sessions in which delegates will have an opportunity to discuss a particular topic in more detail and tackle a challenge in that area. By the end of the course, delegates will have had a taster of key areas in epidemiology. If we identify demand, we may consider further online sessions in 2024/2025.

Attendees. The number of attendees is expected to be around 60 and we anticipate that there will be a mix of backgrounds and career stages; no prior knowledge of epidemiology is expected as the course will be set at an introductory level.

Format. The format of the course is in-person only, but the lecture components will be recorded.

Costs. Costs are still to be finalized but we expect that a discount will be available for Young-GRAPPA members.

Faculty. Course faculty (to be finalized) will include:

- Prof. Gary J. Macfarlane, Clinical Chair in Epidemiology, University of Aberdeen, and Honorary Consultant, Department of Public Health, NHS Grampian (UK; https://www.abdn.ac.uk/iahs/research/epidemiology/profiles/g.j.macfarlane)
- Prof. Gareth T. Jones, Chair in Epidemiology, University of Aberdeen (UK; https://www.abdn.ac.uk/ims/research/profiles/gareth.jones)
- Dr. Alexis Ogdie, Associate Professor of Medicine and Epidemiology, University of Pennsylvania (USA; https://www.dbei.med.upenn.edu/bio/alexis-ogdie-beatty-md-msce)
- Dr. Lihi Eder, Associate Professor, University of Toronto, and Canada Research Chair in inflammatory rheumatic diseases, Women's College Hospital (Canada; https://ims.utoronto.ca/faculty/lihi-eder)

Discussion

GRAPPA delegates responded to both project proposals positively and supportively. The next steps in the early PsA diagnosis project will be to develop a project protocol and approach industry partners to establish their interest and seek funding support. Given the costs of this project, it is likely that financial support from a number of industry partners will be required.

To address the epidemiological training needs of GRAPPA members, the epidemiology course faculty will proceed to further organize the details of the course, including funding requirements. For a small additional fee, GRAPPA industry partners will be given the opportunity for their representatives to attend the course or to later take a recorded version of the course online.

ACKNOWLEDGMENT

We thank DerMEDit (www.dermedit.com) for editing services in preparation of this manuscript.

REFERENCES

1. Karmacharya P, Chakradhar R, Ogdie A. The epidemiology of psoriatic arthritis: a literature review. Best Pract Res Clin Rheumatol 2021;35:101692.
2. Haroon M, Kirby B, FitzGerald O. High prevalence of psoriatic arthritis in patients with severe psoriasis with suboptimal performance of screening questionnaires. Ann Rheum Dis 2013;72:736-40.
3. Coates LC, Walsh J, Haroon M, et al. Development and testing of new candidate psoriatic arthritis screening questionnaires combining optimal questions from existing tools. Arthritis Care Res 2014;66:1410-6.
4. Reich K, Krüger K, Mössner R, Augustin M. Epidemiology and clinical pattern of psoriatic arthritis in Germany: a prospective interdisciplinary epidemiological study of 1511 patients with plaque-type psoriasis. Br J Dermatol 2009;160:1040-7.
5. Mease PJ, Gladman DD, Papp KA, et al. Prevalence of rheumatologist-diagnosed psoriatic arthritis in patients with psoriasis in European/North American dermatology clinics. J Am Acad Dermatol 2013;69:729-35.
6. Haroon M, Gallagher P, FitzGerald O. Diagnostic delay of more than 6 months contributes to poor radiographic and functional outcome in psoriatic arthritis. Ann Rheum Dis 2015;74:1045-50.
7. Dominguez P, Husni ME, Garg A, Qureshi AA. Psoriatic Arthritis Screening and Evaluation (PASE) questionnaire and the role of dermatologists: a report from the GRAPPA 2009 annual meeting. J Rheumatol 2011;38:548-50.
8. Gladman DD, Schentag CT, Tom BD, et al. Development and initial validation of a screening questionnaire for psoriatic arthritis: the Toronto Psoriatic Arthritis Screen (ToPAS). Ann Rheum Dis 2009;68:497-501.
9. Tom BD, Chandran V, Farewell VT, Rosen CF, Gladman DD. Validation of the Toronto Psoriatic Arthritis Screen, version 2 (ToPAS 2). J Rheumatol 2015;42:841-6.
10. 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.
11. Tinazzi I, Adami S, Zanolin EM, et al. The Early Psoriatic Arthritis Screening questionnaire: a simple and fast method for the identification of arthritis in patients with psoriasis. Rheumatology 2012;51:2058-63.
12. Song K, Webb L, Eder L, et al. Screening and referral strategies for the early recognition of psoriatic arthritis among patients with psoriasis: results of a GRAPPA survey. J Rheumatol 2023;50:1439-45.