# GRAPPA Trainees Symposium 2010: A Report from the GRAPPA 2010 Annual Meeting

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***ABSTRACT.*** At the 2010 annual meeting of GRAPPA (Group for Research and Assessment of Psoriasis and Psoriatic Arthritis), 24 trainees (rheumatology fellows and dermatology residents) engaged in research in psoriatic disease were invited to present their work at the Trainees Symposium, which preceded the GRAPPA meeting and was also attended by GRAPPA members and invited guests. Nineteen posters and 6 oral presentations were presented by the trainees, all of which are summarized here. (J Rheumatol 2012;39:394–7; doi:10.3899/jrheum.111232)

*Key Indexing Terms:*
PSORIATIC ARTHRITIS PSORIASIS TRAINEE RHEUMATOLOGIST DERMATOLOGIST

On December 9, 2010, 24 fellows and trainees from Argentina, Brazil, Canada, Colombia, Denmark, England, Italy, the United States, and Venezuela presented abstracts at the Trainees Symposium at the Annual Meeting of GRAPPA [Group for Research and Assessment of Psoriasis and Psoriatic Arthritis (PsA)] in Miami Beach, Florida. Nineteen universities were represented; 2 or more abstracts each were submitted by the University of Leeds (England), the University of Toronto (Canada), Louisiana State University, and the University of Utah (USA).

This was the third GRAPPA Trainees Symposium and followed the format developed in previous sessions in Leeds in 2008 and in Stockholm in 2009[1]. Trainees in rheumatology or dermatology who were members of GRAPPA or who were nominated by GRAPPA members were invited to submit abstracts based on recent research in psoriasis or PsA. A total of 24 trainees submitted abstracts, an increase of 9 from the Stockholm meeting; 6 were selected for oral presentation and 19 were presented as posters (one trainee had both oral and poster presentations). Two types of abstracts were considered: those that described the results or progress of a primary research project in PsA or psoriasis; or a scholarly summary based on an evidence-based literature review that included a proposal for a research project with methodology described. The abstract selection committee comprised 16 members (5 reviewers per abstract). The reviewers were blinded to the authors, and the abstracts were scored on a scale of 1 to 5. The abstracts with the 6 best scores were selected as oral presentations and the remainder were selected as posters if they exceeded a minimum score. Cross-disciplinary interest among dermatology and rheumatology was a pivotal factor in ranking the abstracts.

Christopher Ritchlin (Rochester, NY, USA) chaired the session, and over 100 GRAPPA members attended the presentations and queried the trainees during the oral and poster sessions.

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## Oral Presentations

*Investigating the use of the ClASsification of Psoriatic ARthritis (CASPAR) criteria in early PsA* (Laura Coates, MBChB, PhD, MRCP, University of Leeds, England)

Dr. Coates applied the CASPAR criteria[2] to a group of 111 subjects with early PsA (< 2 yrs of disease) and 111 healthy controls to compare the sensitivity and specificity of this measure with the Moll and Wright criteria[3]. The 2 sets of criteria were compared using the McNamara test and receiver operating characteristic (ROC) curve. The sensitivity was 87.4% for the CASPAR and 80.2% for the Moll and Wright; the specificity for both was 99.1%. The area under the curve (AUC) was 0.991 for the CASPAR and 0.896 for the Moll and Wright. Analysis of individual components of the CASPAR revealed that 96% of cases had current, previous, or a family history of psoriasis, and 84% had current psoriasis. Both dactylitis and nail psoriasis were highly discriminatory for PsA. In regression analyses, nail psoriasis and negative rheumatoid factor were the most important variables that differentiated PsA, followed by nail psoriasis and dactylitis. These data show that the CASPAR criteria can be used to classify early PsA and are valid as inclusion criteria for PsA clinical trials.

*Association of osteoprotegerin (OPG) and ligands in patients with PsA without cardiovascular (CV) events* (Ignacio Garcia Vallasares, MD, Louisiana State University, USA, and colleagues)

Vallasares, *et al* measured the correlation of OPG with a panel of inflammatory cytokines in the sera of 20 control patients and 20 patients with PsA with no history of CV events, and 20

healthy controls. OPG levels were higher in patients with PsA ($p < 0.05$), but correlated with a number of cytokines including tumor necrosis factor (TNF), interleukin 1 (IL-1), IL-12, IL-17, and IL-23. The authors suggest that OPG may have a proatherogenic role in PsA, but additional studies are needed to address this question.

*Prevalence of PsA in The Health Improvement Network (THIN) and the impact of psoriasis extent on prevalence of PsA* (Alexis Ogdie, MD, University of Pennsylvania Medical School, USA)

Dr. Ogdie examined the prevalence of PsA in THIN[4], a medical record database in the UK, with 7 million patients followed for an average 7 years. Of > 7000 patients who had ≥ 1 code for PsA, 4900 were randomly selected and administered a questionnaire to confirm the diagnosis of psoriasis and disease severity. The questionnaire response rate was 95% and the prevalence of psoriasis was 1.9%. The prevalence of PsA in the patients with psoriasis increased from 4.7% (95% CI 3.8–6.7) in patients with < 2% psoriasis body surface area (BSA) to 23% (95% CI 18.8%–27.5%) of psoriasis patients with > 10% psoriasis BSA. These data indicate that prevalence of PsA dramatically rises with increasing severity of skin psoriasis.

*Lower prevalence of obstructive sleep apnea in inflammatory arthritis patients taking TNF-inhibitors* (Jessica Walsh, MD, University of Utah Medical Center, USA)

Dr. Walsh presented findings on obstructive sleep apnea (OSA), which is reported to be highly prevalent in both rheumatoid arthritis (RA) and ankylosing spondylitis (AS). In a study of 187 patients with inflammatory arthritis, 91 with OSA symptoms were selected to determine if the prevalence of OSA was lower in patients taking anti-tumor necrosis factor agents (anti-TNF). Patients were diagnosed with OSA based on a 4-channel home study (n = 68) or data generated during polysomnography in a sleep laboratory (n = 23). After adjustment for age and body mass index (BMI), the prevalence of OSA was lower in patients receiving anti-TNF agents versus patients not receiving these medications (OR 0.14, $p = 0.006$). One potential explanation for these data is that TNF blockade decreases the likelihood of OSA via the suppression of inflammation, but further studies are required to explore this association.

*High correlation between PASI (Psoriasis Area and Severity Index) and SPASI (Simplified PASI) scores supports the use of the SPASI as an easier alternative to the PASI* (Jamie Woodcock, MD, University of Utah Medical Center, USA)

Dr. Woodcock explained that while the PASI is commonly the primary outcome measure in clinical trials, it is often considered too cumbersome for use in the clinical setting. Using an alternative outcome measure, the SPASI (sum of redness, scaliness, and thickness of all psoriasis lesions multiplied by the total BSA), Louden, *et al*[5] used PASI data to calculate SPASI in a simulated patient database, and reported a high correlation between the PASI and SPASI ($r = 0.9$). A similarly high correlation was found ($r = 0.866$) in calculating SPASI from PASI data from 529 patient observations in the GRAPPA Composite Index Exercise study. In Dr. Woodcock's current study, the correlation between the PASI and SPASI in 28 patients was 0.967. These results support using the SPASI as a more convenient alternative to the PASI; moreover, SPASI may enable more consistent quantification of disease activity in clinical practice. Simultaneous use of a patient-derived assessment instrument [e.g., Dermatology Life Quality Index (DLQI)] may provide more accurate assessments in patients with low BSA involvement, a population where both the PASI and SPASI are relatively insensitive to change and may underestimate disease activity.

*Heavy smoking in patients with psoriasis delays age of onset of PsA and may protect against disease development* (Daniel Zaghi, MD, University of Utah Medical Center, USA)

Dr. Zaghi and team examined the impact of smoking on the development of PsA in a retrospective cohort analysis. They used Cox regression analysis and Kaplan-Meier failure curves and added 2 exploratory analyses, Poisson regression, and ad hoc linear regression, after they observed a reduced hazard in heavy smokers. They observed a lowered hazard ratio (HR) among the heavy smokers (> 20 pack-years, HR 0.42, $p < 0.01$; ≥ 2 packs/day, HR 0.51, $p = 0.034$). A dose-response relationship was noted between smoking exposures and delay in age of onset of PsA (< 10 pack-years, 1.08-year delay, $p = 0.62$; 10–20 pack-years, + 5.36-year delay, $p = 0.024$; > 20 pack-years, + 10.39-year delay, $p < 0.01$). A similar pattern was observed among pack/day exposures. They observed a decreased relative risk (RR) of PsA among subjects with > 20 pack-years of smoking exposure (RR 0.64, $p = 0.072$). Confirmatory studies are needed to explore this association and the potential mechanisms that may underlie it.

**Poster Presentations**

Michael Krathen (Boston, MA, USA) completed a literature review of the relationship between PsA, RA, and their treatment on the development of cutaneous malignancy. Treatment with TNF inhibitors increased the rates of nonmelanoma skin cancer (NMSC) in RA and psoriasis. This risk doubled when combination methotrexate (MTX) therapy was used in RA. MTX may increase the risk of malignant melanoma in RA patients and the risk of NMSC in psoriasis. Cyclosporine in combination with active or prior phototherapy significantly increased the risk of NMSC.

Ana Luisa Sobral Bittencourt Sampaio (Rio de Janiero, Brazil) examined the prevalence of fatigue in PsA in this cross-sectional study of 101 patients with PsA, using the Fatigue Assessment of Chronic Illness Therapy Scale (FACIT)[6]. The FACIT correlated with the PASI score ($r^2 = 0.306$, $p < 0.001$) but not the Bath AS Disease Activity Index (BASDAI). Moderate to intense fatigue was noted in about 25% of patients.

Lihi Eder (Toronto, Canada) and team examined the association between environmental exposures and the development of PsA in a case-control study. Following multivariate logistic regression, several exposures remained significantly associated with PsA: lifting cumulative loads of ≥ 100 pounds/h (OR 2.9, $p < 0.001$), infections that required antibiotics (OR 1.8, $p = 0.04$), current smoking (OR 0.5, $p = 0.03$), and past smoking (OR 0.5, $p = 0.02$).

Tomás Cazenave (Buenos Aires, Argentina) presented the Argentine version of PsAQoL (PsA quality of life) adapted from English[7] and validated. This version showed acceptance, reliability, and reproducibility in patients with PsA. An excellent correlation with functional capacity and disease activity measures was observed.

Leandro Gabriel Ferreyra Garrott (Buenos Aires, Argentina) validated the self-administered questionnaire, PASE (PsA Screening and Evaluation)[8] in Spanish-speaking psoriasis patients with musculoskeletal symptoms. A statistically significant difference in scores was noted between patients with versus patients without PsA. The ROC showed an AUC of 0.71 (95% CI 0.62–0.81) and of 0.81 (95% CI 0.69–0.93), respectively, confirming that the PASE questionnaire can be used to screen Spanish-speaking patients for psoriasis.

Boluwaji Ogunyemi (St. John's, Newfoundland, Canada) identified 13 patients with PsA who died over a 20-year period in a retrospective chart review: 85.7% of deceased patients had an erythrocyte sedimentation rate > 15 mm/h versus 36.4% of patients living with PsA; 16% had dystrophic nail changes versus 59.6% of living PsA patients; and almost half of deceased patients had been taking prednisone (46.2%) versus 11.2% of living PsA patients.

Zoe Ash (Leeds, England) scanned the nailbeds and distal joints of 27 patients with PsA and 20 patients with psoriasis using high resolution magnetic resonance imaging (MRI) and administered ultrasound (US) examinations. About 75% of patients with PsA versus 20% of controls had US abnormalities; MRI enthesitis was observed in 9/12 patients.

Axel Nigg (Munich, Germany) described a prospective US study of 15 patients with PsA. US effectively assisted in diagnosing early PsA, detected subclinical joint inflammation, and correlated well with disease activity and functional impairment.

Will Tillet (Bath, England) described a study of 287 patients with PsA, in whom the EuroQol[9], a self-reported quality of life (QOL) questionnaire, showed good correlation with the Health Assessment Questionnaire and DLQI. These measures demonstrated reduced QOL in PsA, which remained constant over time independent of age, gender, disease duration, or therapy.

Zahi Touma (Toronto, Canada) examined seasonal variation of vitamin D levels in 302 PsA patients in Canada and the subtropics over a 6-month period. A high prevalence of vitamin D insufficiency was noted in PsA patients, with no seasonal variation in levels among patients with PsA in the southern and northern sites. No association was established between disease activity and vitamin D level. Lifestyle and demographic determinants (e.g., presence of suntan and intake of vitamin D) raised the vitamin D level.

Luis Arturo Gutierrez (Caracas, Venezuela) described 57 patients with spondyloarthropathy (SpA) treated with anti-TNF agents: 7% had elevated antinuclear antibody titers ≥ 1:160 and 3.5% of patients had elevated titers of anti-DNA antibodies, but only 1 patient experienced symptoms of lupus syndrome. The prevalence of lupus syndromes in patients with SpA treated with anti-TNF agents may be less than in RA.

Luisa Costa (Naples, Italy) described 29 patients with early PsA who received open-label anti-TNF agents and were assessed at 12 and 24 weeks. A significant improvement in the DAS28 (Disease Activity Score, 28 joints) was observed at 12 and 24 weeks compared to baseline ($p < 0.001$).

Ignacio Garcia Valladares (New Orleans, LA, USA) described a patient with refractory PsA who required therapy with multiple different biologics as monotherapy and in combination.

Anna Caperon (Leeds, England) performed a systematic literature review of remission and minimal disease activity (MDA) in PsA that revealed that remission may be sustained despite treatment interruption. A randomized controlled study of treatment withdrawal followed by periodic assessments for MDA was proposed.

Susanne Juhl Pedersen (Copenhagen, Denmark) examined patients with PsA (n = 15), SpA (n = 19), and healthy controls (n = 13) for enthesitis with 7 different enthesitis indices; ≥ 1 tender enthesis (of possible 35) was noted in 93% of PsA, 79% of SpA, and 38% of controls, which was not significant. Enthesitis correlated weakly with BASDAI but not C-reactive protein (CRP).

Lindsay Wall Burns (Vancouver, BC, Canada) proposed a study to obtain population-level information from linked healthcare databases to estimate incidence of depression in patients with PsA and psoriasis in British Columbia, and to determine if depression is associated with increased risk of cardiovascular disease and mortality risk.

Henry B. Townsend (Boston, MA, USA) performed a retrospective chart review of 127 patients with PsA who had completed the PASE questionnaire and had serum high sensitivity (hs)-CRP values; total PASE scores correlated with the hs-CRP levels (Spearmans 0.20, $p = 0.024$).

Vidula Bhole (Vancouver, Canada) compared the BMI in patients with psoriasis (n = 448) and PsA (n = 644) enrolled in the International Research Team registry and in patients with RA (n = 350) enrolled in a longitudinal study. The mean BMI findings in the 3 groups were 29.6, 27.9, and 26.1, respectively, and the differences were significant ($p < 0.0001$). In patients with psoriasis or PsA, age, smoking, PASI score, glucocorticoid use, and female gender were sig-

nificantly associated with a higher BMI or with increased odds of obesity.

Julio Roberto Amador (Bogota, Colombia) described 43 patients with PsA with a mean age of 54 years, in whom subclinical cardiovascular disease was noted in 79%, endothelial dysfunction in 51%, and increased carotid intimal-medial thickening in 51%. Also, cardiovascular risk factors were identified in 77% of these patients.

Both the oral presentations and poster sessions by trainees generated lively discussion and helpful suggestions from the GRAPPA faculty. The marked success and impressive growth of trainee presenters over the last 3 years coupled with the high quality of the abstracts ensures that research in psoriasis and PsA will have a bright future.

## REFERENCES


1. Coates LC, Ritchlin CT. GRAPPA Trainees Symposium 2009: A report from the GRAPPA 2009 Annual Meeting. J Rheumatol 2011;38:526-9.
2. Taylor W, Gladman D, Helliwell P, Marchesoni A, Mease P, Mielants H. Classification criteria for psoriatic arthritis: Development of new criteria from a large international study. Arthritis Rheum 2006;54:2665-73.
3. Moll JM, Wright V. New York clinical criteria for ankylosing spondylitis. A statistical evaluation. Ann Rheum Dis 1973;32:354-63.
4. Lewis JD, Schinnar R, Bilker WB, Wang X, Strom BL. Validation studies of the health improvement network (THIN) database for pharmacoepidemiology research. Pharmacoepidemiol Drug Saf 2007;16:393-401.
5. Louden BA, Pearce DJ, Lang W, Feldman SR. A Simplified Psoriasis Area Severity Index (SPASI) for rating psoriasis severity in clinic patients. Dermatol Online J 2004;10:7.
6. Webster K, Cella D, Yost K. The Functional Assessment of Chronic Illness Therapy (FACIT) Measurement System: Properties, applications, and interpretation. Health Qual Life Outcomes 2003;1:79.
7. McKenna SP, Doward LC, Whalley D, Tennant A, Emery P, Veale DJ. Development of the PsAQoL: A quality of life instrument specific to psoriatic arthritis. Ann Rheum Dis 2004;63:162-9.
8. Husni ME, Meyer KH, Cohen DS, Mody E, Qureshi AA. The PASE questionnaire: Pilot-testing a psoriatic arthritis screening and evaluation tool. J Am Acad Dermatol 2007;57:581-7.
9. Nord E. EuroQol: Health-related quality of life measurement. Valuations of health states by the general public in Norway. Health Policy 1991;18:25-36.