# Psoriatic Arthritis in Canadian Clinical Practice: The PsA Assessment in Rheumatology

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***ABSTRACT.*** ***Objective.*** We aimed to determine disease severity and treatment of patients with psoriatic arthritis (PsA) in rheumatology practices in Canada through the PsA Assessment in Rheumatology (PAIR) study.
***Methods.*** Rheumatologists who were members of the Canadian Rheumatology Association were asked to complete a form for each patient addressing demographic questions, history, clinical examination, and patient-reported outcomes. Results were compared with a cohort seen in a PsA clinic during the same period.
***Results.*** From across Canada, 22 rheumatologists from 5 provinces submitted information about 233 consecutive patients with PsA [145 men (62.2%), 88 women (37.8%), mean age 53.2 yrs (± 12.7), 88.4% disease duration > 2 yrs]. A majority (80.7%) fulfilled ClASsification for Psoriatic ARthritis (CASPAR) criteria, and 30% had taken no disease-modifying antirheumatic drugs. Clinical joint damage was documented in 60% of the patients, active skin disease in 70%, and nail lesions in 32%. Only 22% were rated as having moderate to high disease activity, while 52% were rated as low disease activity and 26% were deemed in remission. The decision was based on joint counts, patient global assessment, physician global assessment, and acute-phase reactants. Twenty-seven percent of the patients were to have their medications changed based on the current visit, the majority for inadequate response to medications. Patients in the PAIR cohort had more inflamed joints but similar damage to those in the PsA clinic.
***Conclusion.*** Patients with PsA seen in regular rheumatology practice fulfill CASPAR criteria, have active disease, and more than half have joint damage. The majority have low activity or are in remission. (First Release Aug 1 2012; J Rheumatol 2012;39:1850–3; doi:10.3899/jrheum.120282)

*Key Indexing Terms:*
PSORIATIC ARTHRITIS COMMUNITY CARE TREATMENT ACTIVITY DAMAGE

Psoriatic arthritis (PsA) is an inflammatory musculoskeletal disease associated with psoriasis. Studies from specialized clinics suggest that the disease is severe[1,2,3,4]. It has been shown that patients with PsA demonstrate progression of joint damage both clinically and radiologically and have an increased mortality risk, although the latter may have improved over the past decade[5,6,7,8]. However, it has been argued that these patients are seen at specialty clinics and may represent the more severe spectrum of the disease. An epidemiological study suggests that the outcome may not be as bad[9]. It is unknown how patients with PsA fare in general rheumatology practice in Canada. The aim of our study was to determine disease severity and treatment of patients with PsA followed in rheumatology practices in Canada.

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## MATERIALS AND METHODS

*Participants*. Rheumatologists were invited to participate in the PsA Assessment in Rheumatology (PAIR) program through the Canadian Rheumatology Association.

*Assessments*. Rheumatologists were asked to complete a form for each patient addressing demographic questions, ClASsification for Psoriatic ARthritis (CASPAR) criteria[10], medication use, current status including joint counts, presence of dactylitis (inflammation of a whole digit), enthesitis (tenderness at insertion of tendons into bone, specifically at Achilles and plantar fascia sites), back involvement (inflammatory back pain, limitation of spinal mobility, sacroiliitis and/or syndesmophytes), patient (PGA) and physician (MDGA) global assessment, acute-phase reactants, assessment of prognosis, and plans for change of medication. Remission was determined by the physician on the basis of joint counts being 0, PGA being low, MDGA being low, and acute-phase reactants being normal.

*Analysis*. Descriptive statistics including frequencies (%) and means (SD) were gathered. Patients in the PAIR study were compared to patients who had

a visit to the University of Toronto PsA Clinic in 2010. This was done using chi-square and Fisher's exact tests for categorical variables and t-tests for continuous variables.

## RESULTS

*Recruitment*. Two hundred thirty-three patients were recruited from 22 rheumatology practices from 5 provinces with a median number of patients per site of 10 (range 8–15).

*Characteristics of the patient population*. Among the 233 patients, there were 145 men (62.2%) and 88 women (37.8%), with a mean age of 53.2 years, and the majority (88.4%) had had disease for more than 2 years (Table 1). At the time of the visit for the PAIR cohort, 70% of the patients had skin lesions and 32% had nail lesions. This cohort was similar to the cohort followed at the University of Toronto PsA clinic during 2010, with the exception that there were more newly diagnosed patients in the Toronto cohort. Of the PAIR cohort, 80.7% fulfilled CASPAR criteria, while in the Toronto cohort 99% of the patients fulfilled CASPAR criteria. The majority of the patients (97.3%) had peripheral arthritis and the rest had axial disease or enthesitis. Of the CASPAR criteria, current psoriasis was noted in 75% of the patients, with the rest having either history of psoriasis or family history of psoriasis. Thirty-eight percent of the patients had nail dystrophy, 80% were rheumatoid factor-negative, 47.6% had dactylitis, and 16.3% had juxtaarticular fluffy new bone formation.

*Joint assessment*. Table 2 shows the number of tender and swollen joints using the 68/66 joint count as well as the 44 and 28 joint counts. The PAIR cohort was similar to the Toronto cohort in the number of tender joints although there was a trend toward a higher number of tender joints using the 68 joint count in the Toronto cohort. A higher number of swollen joints was reported for the patients in the PAIR cohort than for those in the Toronto cohort using either the 66 or the 44 joint count, although the difference was not noted using the 28 joint count. On the other hand, the damaged joint count was similar in both cohorts, with 60% of the patients demonstrating joint damage.

Dactylitis was more commonly detected among the patients in the PAIR cohort than in the Toronto cohort, while there was no difference in enthesitis between the 2 cohorts.

Metrology of axial disease was different. More patients in the Toronto cohort had axial involvement. However, there may be a difference in the definition of axial disease. In the Toronto cohort, all patients undergo radiographic assessment and the definition thus includes sacroiliitis, even in the absence of inflammatory back pain. The differences noted in the metrology suggest that patients in the Toronto cohort have more limited back mobility.

*Overall assessment of disease activity*. Table 3 provides the details of the patient and physician global assessment as well as the acute-phase reactants. Although this information was not available for all patients, overall patient and physician global assessment suggested a low level of disease activity, and the erythrocyte sedimentation rate and C-reactive protein levels on average were not significantly elevated. Of the community group, 22% of the patients were rated as having moderate to high disease activity, 52% of patients were rated as

*Table 1*. Characteristics of the patient population.

| Variable | PAIR, n = 233 | PsA Cohort, n = 484 | p |
|---|---|---|---|
| Age, yrs, mean (SD) | 53.2 (12.7) | 52.3 (13.4) | 0.40 |
| Men | 145 (62.2) | 287 (59.3) | 0.45 |
| Women | 88 (37.8) | 197 (40.7) | |
| Disease duration, n (%) | | | 0.006 |
| ≤ 3 mo | 1 (0.4) | 29 (6.0) | |
| > 3 to ≤ 6 mo | 1 (0.4) | 0 (0.0) | |
| > 6 to ≤ 24 | 16 (6.9) | 28 (5.8) | |
| > 24 mo | 206 (88.4) | 403 (83.3) | |
| Unknown | 9 (3.9) | 24 (5.0) | |
| Smoking, n (%) | | | 0.41 |
| Current | 29 (12.5) | 50 (10.3) | |
| Ever | 50 (21.5) | 111 (22.9) | |
| Never | 133 (57.1) | 227 (46.9) | |
| Unknown | 21 (9) | 96 (19.8) | |

PAIR: PsA Assessment in Rheumatology study; PsA: psoriatic arthritis.

*Table 2*. Joint manifestations.

| Variable | PAIR | PsA Cohort | p |
|---|---|---|---|
| Tender joint, mean (SD) | | | |
| 68 | 3.9 (8.4) | 4.1 (7.3) | 0.06 |
| 44 | 2.5 (2.8) | 3.5 (6.2) | 0.25 |
| 28 | 1.8 (3.7) | 2.2 (4.2) | 0.51 |
| Swollen joint count, mean (SD) | | | |
| 66 | 3.0 (6.3) | 1.5 (3.0) | < 0.0001 |
| 44 | 2.9 (3.4) | 1.3 (2.8) | 0.0003 |
| 28 | 1.0 (1.8) | 1.0 (2.2) | NS |
| Dactylitis* | 36 (16) | 34 (7.6) | 0.001 |
| Enthesitis* | 25 (11) | 71 (15) | 0.19 |
| Clinical damage* | 140 (60) | 294 (61) | 0.92 |
| Axial disease* | 29 (13) | 159 (32.8) | < 0.0001 |
| Metrics, mean (SD) | | | |
| Schober test | 7.1 (4.2) | 4.5 (1.2) | < 0.0001 |
| Chest expansion | 4.3 (1.8) | 5.7 (1.9) | 0.001 |
| Lateral spinal flexion | 18.9 (15.2) | 16.0 (4.5)† | 0.02 |
| Cervical rotation | 64.6 (32.2) | 73.3 (17.3) | 0.17 |

* n (%); † Domjan method. PAIR: PsA Assessment in Rheumatology study; PsA: psoriatic arthritis; NS: nonsignificant.

*Table 3*. Overall assessment of disease activity.

| Variable | PAIR | PsA Cohort | p |
|---|---|---|---|
| PGA (0–10), mean (SD) | 2.3 (2.3) | 2.4 (0.9) | < 0.0001 |
| MDGA (0–10), mean (SD) | 1.9 (1.9) | 2.1 (0.8) | 0.57 |
| ESR for 130 patients (56%) | 13 (11.7) | 10.3 (13.0) | 0.03 |
| CRP for 54 patients (21%) | 9.4 (12) | 6.8 (11.2) | 0.35 |

PAIR: PsA Assessment in Rheumatology study; PsA: psoriatic arthritis; PGA: patient global assessment; MDGA: physician global assessment; ESR: erythrocyte sedimentation rate; CRP: C-reactive protein.

having low disease activity, and 26% of patients were deemed to be in remission. Within the PsA clinic group, 18% were in remission, 63% had low disease activity, and 18% had moderate to high disease activity. The decision was based on joint counts, PGA, MDGA, Psoriasis Area and Severity Index, and acute-phase reactants.

*Treatment*. Thirty percent of the patients in the PAIR cohort were currently not treated with disease-modifying antirheumatic drugs (DMARD), compared to 43.5% of the patients in the Toronto cohort (Table 4). All DMARD and biologics with the exception of alefacept have been used in both cohorts. Although currently more PAIR patients were being treated with DMARD, more patients in the Toronto cohort had been treated with DMARD in the past. Moreover, there was a higher use of biologic agents among the Toronto cohort patients compared to the PAIR patients.

*Comparison between the PAIR cohort and the University of Toronto PsA cohort*. The Toronto cohort had more early-disease patients (< 24 months) than the PAIR cohort. However, there were no other differentiating demographic features. Patients in the PAIR cohort had more swollen joints, but it should be noted that more patients in the Toronto cohort were treated with DMARD and biologic agents, thus they had better disease control. On the other hand, the degree of damage was similar in both cohorts. Axial involvement was more common among patients in the Toronto cohort; this may be because all patients in the Toronto cohort underwent radiographic evaluation, while in the PAIR cohort, axial involvement was mostly based on clinical assessment.

## DISCUSSION

This study of Canadian community rheumatology practice demonstrates that patients with PsA seen in regular rheumatology practice in Canada fulfill CASPAR criteria, have active disease, and demonstrate clinical damage. The majority have low disease activity or are in remission, and about a third are on treatment with biologic agents. Rheumatologists in Canada are treating patients with PsA according to their disease activity.

It has been suggested that patients followed in specialty clinics may be different from those followed in community practices. In particular, it has been proposed that the latter patients would have less severe disease. Our study demonstrates that patients with PsA followed in rheumatology practices across Canada are similar to those followed in a specialty clinic in terms of their demographic characteristics. They are also similar in terms of clinical damage accrual. However, patients followed in the PAIR cohort had more swollen joints, suggesting that their disease was more active than those followed in the Toronto cohort. This may be related to the greater likelihood of patients in the specialty clinic being treated with DMARD and biologic agents compared to those in the community. While more patients in the PAIR cohort were currently being treated with DMARD, more patients in the Toronto cohort had been treated with DMARD in the past. This reflects the practice at the University of Toronto cohort to discontinue DMARD once patients have demonstrated response to biologics, and that there were more recently diagnosed patients within the Toronto cohort who may not have started DMARD therapy at the time of our study. There is still a pro-

*Table 4*. Medication use. Except for p values, data are n (%).

| | PAIR, Current Use | PsA Cohort, Current Use | p, Current Use | PAIR, Past Use | PsA Cohort, Past Use |
|---|---|---|---|---|---|
| DMARD | | | | | |
| Steroids | 16 (6.9) | 15 (6.7) | 0.85 | 53 (22.8) | 14 (7.0) |
| Antimalarials | 15 (6.4) | 18 (6.7) | 0.19 | 39 (16.8) | 17 (8.4) |
| Sulfasalazine | 28 (12.0) | 37 (15.0) | 0.53 | 60 (25.8) | 31 (14.4) |
| Methotrexate | 134 (57.5) | 207 (49.8) | < 0.0001 | 57 (24.5) | 187 (50.3) |
| Leflunomide | 9 (3.9) | 36 (14.7) | 0.004 | 24 (10.3) | 34 (15.5) |
| Azathioprine | 1 (0.4) | 9 (4.1) | 0.04 | 8 (3.4) | 9 (4.6) |
| Cyclosporine | 0 (0.0) | 6 (2.8) | 0.03 | 5 (2.2) | 6 (3.1) |
| Gold injections | 0 (0.0) | 0 (0.0) | NS | 16 (6.9) | 0 (0.0) |
| PUVA | 2 (0.9) | 9 (2.0) | 0.74 | 6 (2.6) | 5 (1.2) |
| Retinoids | 0 (0.0) | 4 (1.9) | 0.14 | 3 (1.3) | 4 (2.1) |
| No DMARD | 69 (29.6) | 209 (43.5) | 0.0004 | 109 (46.8) | 42 (12.2) |
| Biologics | | | | | |
| Abatacept | 1 (0.4) | — | — | 1 (0.4) | — |
| Adalimumab | 21 (9.0) | 49 (14.2) | 0.001 | 5 (2.2) | 46 (10.5) |
| Etanercept | 38 (16.3) | 105 (26.3) | < 0.0001 | 11 (4.7) | 101 (23.1) |
| Infliximab | 4 (1.7) | 21 (6.7) | 0.03 | 7 (3.0) | 20 (4.6) |
| Alefacept | 10 (4.3) | 4 (1.3) | < 0.0001 | 1 (0.4) | 3 (0.7) |
| Ustekinumab | 1 (0.4) | 5 (1.7) | 0.39 | 0 (0.0) | 5 (1.1) |
| No biologics | 165 (70.8) | 295 (61.6) | 0.02 | 207 (88.8) | 70 (59.8) |

DMARD: disease-modifying antirheumatic drugs; PAIR: PsA Assessment in Rheumatology study; PsA psoriatic arthritis; PUVA: psoralen ultraviolet A.

portion of patients with PsA who are not exposed to either DMARD or biologic agents. Whether these patients' disease is not severe enough to warrant a DMARD or whether there are still rheumatologists who believe PsA is not a severe disease is unclear.

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## REFERENCES

1. Gladman DD, Farewell VT. Progression in psoriatic arthritis: Role of time varying clinical indicators. J Rheumatol 1999;26:2409-13.
2. Queiro-Silva R, Torre-Alonso JC, Tinture-Eguren T, Lopez-Lagunas I. A polyarticular onset predicts erosive and deforming disease in psoriatic arthritis. Ann Rheum Dis 2003;62:68-70.
3. McHugh NJ, Balachrishnan C, Jones SM. Progression of peripheral joint disease in psoriatic arthritis: A 5-yr prospective study. Rheumatology 2003;42:778-83.
4. Kane D, Stafford L, Bresnihan B, FitzGerald O. A prospective, clinical and radiological study of early psoriatic arthritis: An early synovitis clinic experience. Rheumatology 2003;42:1460-8.
5. Bond SJ, Farewell VT, Schentag CT, Gladman DD. Predictors for radiological damage in psoriatic arthritis. Results from a single centre. Ann Rheum Dis 2007;66:370-6.
6. Wong K, Gladman DD, Husted J, Long J, Farewell VT. Mortality studies in psoriatic arthritis. Results from a single centre. I. Risk and causes of death. Arthritis Rheum 1997;40:1868-72.
7. Ali Y, Tom BD, Schentag CT, Farewell VT, Gladman DD. Improved survival in psoriatic arthritis with calendar time. Arthritis Rheum 2007;56:2708-14.
8. Buckley C, Cavill C, Taylor G, Kay H, Waldron N, Korendowych E, et al. Mortality in psoriatic arthritis — A single-center study from the UK. J Rheumatol 2010;37:2141-4.
9. Shbeeb M, Uramoto KM, Gibson LE, O'Fallon WM, Gabriel SE. The epidemiology of psoriatic arthritis in Olmsted County, Minnesota, USA, 1982-1991. J Rheumatol 2000;27:1247-50.
10. Taylor WJ, Gladman DD, Helliwell PS, 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.