

Original Article

Psoriatic arthritis in Hong Kong

香港牛皮癬關節炎概述

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Objectives: To study the clinical features and disease burden in patients with psoriatic arthritis (PsA) in Chinese. **Methods:** A cross-sectional study on clinical features, laboratory data and radiography in patients with PsA in rheumatology clinics. **Results:** One hundred and twenty-seven patients studied with mean (\pm SD) duration of PsA 11.58 (\pm 7.47) years. Symmetrical polyarthritis developing in the third decade with an equal male to female ratio was the commonest pattern of arthritis. Seventy percent of patients required disease modifying antirheumatic drugs (DMARDs) and 21.3% had used two or more DMARDs at some time for control of joint disease. Clinical classification identified predominant axial disease (AD) and predominant peripheral disease (PD) in 11% and 89% respectively; while radiographical classification identified AD and peripheral disease PD in 36.2% and 63.8%. Radiographic sacroiliitis were asymptomatic in 43%. A third of patients (33%) stopped working because of the disease. Patients with PsA had severe impairment of quality of life as compared to the normal population in Hong Kong. Differentiation into axial or peripheral disease by either classification systems did not affect quality of life outcomes and disease burden. **Conclusion:** The commonest pattern of PsA in Chinese was symmetrical polyarthritis. Patients with PsA were associated with a high disease burden and poor quality of life. More studies should be done to find out the predictors for poor prognosis in order to improve the quality of life for these patients.

目的：調查牛皮癬關節炎在香港華人患者中常見的臨床表現以及該疾病對患者所造成的負擔。**研究方法：**為橫斷面式臨床研究，調查風濕科門診中，牛皮癬關節炎患者的臨床表現、實驗室資料以及影像學表現。**結果：**調查了127名牛皮癬關節炎患者，平均病史(\pm SD)為11.58(\pm 7.47)年。最常見的臨床表現為對稱性多關節炎，始發於30多歲，男女發病率相等。70%患者需要服用緩解病情的抗風濕藥物(DMARDs)，21.3%患者需要服用兩種或兩種以上的緩解病情藥物以控制關節病變。臨床分型上，外周關節型較常見，約佔89%，中軸關節型約佔11%；影像學分型上，外周關節型與中軸關節型各佔63.8%和36.2%，43%的骶髂關節炎沒有病徵。

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1/3 (33%) 患者因患病而停止工作。與香港成人正常生命質量標準值相比，牛皮癬關節炎患者生命質量嚴重受損，受損程度與疾病的臨床或影像學分型無關。**結論：**香港華人牛皮癬關節炎患者最常見的臨床表現為不對稱性關節炎，該病可造成患者嚴重的疾病負擔與生命質量的受損。為改善患者的生命質量，需進一步研究影響該疾病預後的因素。

Keywords: Clinical features, pattern of disease, psoriatic arthritis

關鍵詞：臨床表現，疾病負擔，牛皮癬關節炎

Introduction

Psoriatic arthritis (PsA), a chronic systemic inflammatory disease characterised by the association of arthritis and psoriasis, follows a heterogeneous and variable clinical course. In the past, seronegativity for rheumatoid factor has been a requirement for the diagnosis. However, over 10 percent of patients with uncomplicated psoriasis and up to 15 percent of the normal population have rheumatoid factor present in their serum. As a result, the term "usually seronegative" arthritis is most suitable for psoriatic arthritis.¹ Psoriatic arthritis affects women and men equally,¹ with an incidence of approximately 6 per 100,000 per year,² and a prevalence of about one to two per 1,000.² Estimates of the prevalence of psoriatic arthritis among patients with psoriasis vary from 4 to 6 percent up to 30 percent.² While some patients have mild disease that is adequately responsive to mild therapeutic intervention, other have a severe erosive arthropathy is often refractory to several treatment and may be associated with functional disability and accelerated morbidity. PsA is recognised as a unique entity with chronic inflammatory changes over joint or entheses in association with psoriasis. Specific clinical features that distinguish PsA from other arthropathies include nail dystrophies, distal phalangeal joint (DIPJ) involvement, dactylitis, enthesitis, osteolysis, periarticular new bone formation, asymmetrical sacroiliitis and spondylitis. PsA has a wide range of clinical manifestations and subgroups have been used since 70s. Five patterns of disease subgroups were described by Moll and Wright, including DIPJ-only,

asymmetrical oligoarthritis, symmetrical polyarthritis, spondylitis, and arthritis mutilans.³ Considerable overlaps between subgroups have been recognised. Some authors suggested subclassification into two broad subsets: peripheral disease (PD) and axial disease (AD).⁴ There are no literature on PsA in Chinese. In this study, we aim to evaluate the clinical feature and burden of disease of PsA in Chinese.

Methods

Patient population and clinical assessment

One hundred and twenty-seven adult patients followed up in three regional secondary and tertiary referral rheumatology outpatient clinics from January to June 2006 were recruited and assessed in separate sections. All patients fulfilled the Classification of Psoriatic Arthritis (CASPAR) criteria for PsA.⁵ The CASPAR criteria was recently developed by a prospective, multi-centered observational study and as an agreed and validated classification for PsA. It gives a sensitivity and specificity of 0.914 and 0.987 to classify PsA from NonPsA. The study protocol was reviewed and approved by the Joint Chinese University of Hong Kong – New Territories East Cluster (CUHK-NTEC) and Kowloon Central/Kowloon East Cluster (KC/KE) clinical research ethics committees. Prior to entry of the study, participants were informed of the nature and purpose of study, and informed consent were obtained.

A standardised protocol was used in the assessment. Demographic data collected in this

study included age, sex, age at psoriasis and PsA onset, family history of psoriasis or PsA, exposure to disease modifying anti-rheumatic drugs (DMARDs) and current medications. Burden of disease and social impact were assessed by questions on unemployment, change of job nature, experience of income loss and social welfare dependence as a result of the disease. Tender and swollen joint counts were recorded on 68/66 diarthrodial joint charts. Enthesitis was assessed and scored using the Maastricht Ankylosing Spondylitis Entheses Score (MASES).⁶ Dactylitis and its count (1-20) was recorded. Psoriasis lesions were assessed by means of psoriasis area-and-severity index (PASI),⁷ and nail dystrophy were recorded. Spinal motion measurements including cervical rotation, modified Schober's test, turgot-to-wall distance, spinal lateral flexion and chest expansion were performed. The better of two attempts were recorded. Patients' and Physician's global assessments of health were recorded on a 10 and 5-point scale. Physical function was evaluated with Health Assessment Questionnaire score (HAQ) and the American College of Rheumatology revised Steinbrocker criteria.⁸ Chinese (Hong Kong) version of Medical Outcomes Study Short Form Survey (SF-36)⁹ were recorded and the Hong Kong specific norm based summary scores were formulated.¹⁰

Radiology

Plain radiography of hands, wrists and sacroiliac joints were taken. All films were read and agreed by a radiologist and a rheumatologist trained in the field. The presence of erosions in hands and wrists; and sacroiliitis of grade 2 or above was recorded.

Subgroup classification

Patients were subgrouped by two subclassification systems. The first is clinical classification. Predominant spondylitis was sub-classified by the attending rheumatologists, based on the presence of inflammatory back pain and limitation in spinal mobility. The rest of patients were sub-classified as predominant peripheral disease. The second is radiographic classification. Axial disease (AD)

was defined by the presence of sacroiliitis with or without peripheral arthritis, while peripheral disease (PD) was the absence of sacroiliitis.

Disease activity

Active disease was defined by having 3 or more tender and swollen joints at clinic visit. For patients with pure spondylitis, active disease was defined by Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) >40 and back pain >40 mm on a 100 mm visual analog scale.

Statistical analysis

The statistical analysis was done by the Statistical Package for Social Science (Windows version 10, SPSS Inc, Chicago, US). Descriptive analyses on demographic data were performed. Clinical and biochemical parameters of patients were expressed as percentages and means (\pm SD).

Results

Demographic and clinical features

The mean age of the cohort was 48.4 (\pm 12) years. Male and female were equally affected (M/F ratio 0.98). The mean age of onset of PsA was 38.8 (\pm 11.8) years, duration of psoriasis and PsA were 11.6 (\pm 7.47) and 9.6 (\pm 7.66) years. Psoriasis preceded PsA in 60.4% of the patients by 5.4 (\pm 4.8) years. Family history of psoriasis or PsA was reported in 13.4%. Enthesitis, dactylitis and nail dystrophy were present in 49.6%, 22% and 74.2% respectively. The majority (95.3%) of patients had psoriasis lesions at the time of the survey, with a mean PASI score of 5.1 (\pm 7.2). Seventy percent of patients had DMARD exposure and 21.3% had used two or more DMARDs. At the time of the survey, 40.2% and 18.1% were taking methotrexate and sulphasalazine respectively; while 16.5% were taking two or more DMARDs. Twenty-five percent and 20.5% were using traditional Chinese medicine and acupuncture (Table 1). Only one patient had been on biological agent for psoriasis but was stopped 6 months before this survey due to lack of efficacy.

Table 1. Demographic and patient characteristics of PsA (n=127).

	Proportion (%)	Mean (\pm SD)
Demographics		
M/F ratio	63/64	0.98
Age (years)		48.4 (\pm 12)
Age at onset of PsA (years)		38.8 (\pm 11.8)
Duration of psoriasis (years)		11.6 (\pm 7.5)
Duration of PsA (years)		9.6 (\pm 7.7)
Physician's global assessment (0-5)		2.08 (\pm 0.96)
Patients' global assessment (0-10)		4.41 (\pm 2.26)
Swollen joint count (0-66)		4.4 (\pm 6.94)
Tender joint count (0-68)		3.9 (\pm 5.25)
Damage joint count (0-68)		3.63 (\pm 4.96)
Pain VAS (0-100)		
Global pain		43.39 (\pm 24.8)
Peripheral joint pain		41.46 (\pm 24.3)
Back pain		27.24 (\pm 24.5)
Dactylitis		(22)
Dactylitis (0-20)	0.67 (\pm 1.46)	
Enthesitis		(49.6)
MASES	1.45 (\pm 0.5)	
Skin psoriasis		121 (95.3)
PASI	5.07 (\pm 7.23)	
Clinical subclass		
Predominant peripheral		113 (89)
Predominant spondylitis		14 (11)
Radiography		
Erosions		65 (51.2)
Sacroiliitis		42 (36.2)
HAQ	0.65 (\pm 0.64)	
SF-36		
PCS	32.48 (\pm 14.56)	
MCS	46.39 (\pm 12.02)	

PsA: psoriatic arthritis; VAS: visual analog scale; PASI: Psoriatic Area-and-severity Index; DIPJ: distal interphalangeal joint; HAQ: Health Assessment Questionnaire score; SF-36: Medical Outcomes Study Short Form Survey; PCS: Hong Kong specific norm based physical component summary score; MCS: Hong Kong specific norm based mental component summary score; DMARDs: disease modifying anti-rheumatic drugs.

Pattern of disease

Using the Moll and Wright classification,³ symmetrical polyarthritis was the commonest subtype (50%), followed by asymmetrical oligoarthritis (37%). Predominant spondylitis occurred in 11%, DIPJ and arthritis mutilans did not stand alone as subtypes. DIPJ involvement was present in 40.2%. Using the clinical subclassification, predominant spondylitis occurred in fourteen patients (11%). Twelve had radiographic sacroiliitis, while two (14.3%) did not have sacroiliitis and was subclassified as PD by the radiographic classification system. With 116 sets of radiography available, 36.8% and 63.2% were classified as AD and PD respectively using the radiographic subclassification. A high proportion (42.9%) of patients with radiographic AD were asymptomatic for back pain during clinic visit. On detail questioning, 28.6% of patients with radiographic AD did not recall occurrence of any inflammatory back pain.

Disease activity and burden of disease

Thirty-seven patients (29%) had active disease. Among these patients, 27 were on stable dose of DMARDs, 3 stopped DMARDs due to side effects, 2 patients were newly diagnosed to have PsA and 5 (including 2 with active spondylitis) were on non-steroidal anti-inflammatory drugs only. A third of patients (33%) stopped working because of the disease. A quarter (26%) was on social security assistance. Family income was reduced in 39.4% of patients and 29% of patients changed the job nature after the onset of PsA.

Patients with PsA had severe impairment of quality of life as compared to the normal population in Hong Kong.¹¹ The lowest (worse) SF-36 scores were in the area of role limitation attribute to physical function and general health perceptions. The highest (better) scores were in the areas of social functioning and mental health, yet were all significantly lower (worse) than that of normal population. The impairment was more prominent in the group with active disease. The overall pattern

of SF-36 subscale scores were comparable to that reported in previous study.¹² Both the physical and mental health summary scores were below the norm of 50 for Hong Kong population.¹⁰ The physical health summary score impairment was greater. The mean Hong Kong specific norm based scoring of physical component summary (PCS) and mental component summary (MCS) were 32.5 (± 14.6) and 46.4 (± 12.0) respectively. Differentiation into axial or peripheral disease by either classification systems did not affect quality of life outcomes and disease burden (Table 1).

Discussion

There is paucity of data in Chinese patients suffering from PsA. This is the first description study of clinical features of patients with PsA in Hong Kong. The clinical presentations, disease severity, quality of life and burden of PsA were described. Consistent with previous studies, the peak age of onset of PsA was in the third decades. Psoriasis skin disease usually precedes PsA. Predominant spondylitis subtype occurred in 11%. Axial disease defined as grade 2 or above sacroiliitis on plain X-ray occurred in a third. Asymptomatic spondylitis is common in our cohort. Poor concordance of between clinical inflammatory spinal symptoms and radiographic axial disease has been described.^{13,14}

PsA has a wide range of heterogeneous clinical presentation. Five patterns of disease subgroups were first described by Moll and Wright. Differentiation into asymmetrical oligoarthritis and symmetrical polyarthritis was shown to be changing over time¹⁵ and with DMARD treatment,^{4,15} that limits its validity in subgroup classification. A two-subgroup classification system that classifies PsA into axial or peripheral disease has been advocated.⁴ However, the definition of axial disease is controversial.¹⁶ There were basically two subclassification systems used in the literature. The first is subclassification by clinical grounds with

inflammatory back pain and limitation in spinal mobility. The second is subclassification by radiographic sacroiliitis. Clinical examination is a relatively insensitive way of identifying articular involvement and the incidence of diagnosed spondylitis is low, a radiographic diagnosis of sacroiliitis seems necessary.

PsA with axial involvement is thought to be a more severe form of disease. In a large epidemiological study, predominant spondylitis classified on clinical ground was shown to have more pain, poorer functional status and higher social burden.¹⁶ Another study using radiographic classification, AD was shown to be associated with more peripheral joint erosions, longer disease duration and impaired physical function.⁴ In our cohort, we see a boarder group of patients were included in this radiographic AD subclass than the predominant spondylitis subclass by clinical classification. Up to 43% of radiographic sacroiliitis were asymptomatic. We did not find any differences in disease severity between the 2 group whether it was defined clinically or radiologically

Conclusion

The commonest pattern of PsA in Chinese was symmetrical polyarthritis. Patients with PsA were associated with a high disease burden and poor quality of life. More studies should be done to find out the predictors for poor prognosis in order to improve the quality of life for these patients.

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