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Original Article

# Clinical patterns of seronegative spondyloarthropathies in a tertiary centre in Pakistan

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### الملخص

أهداف البحث: لالتهاب الفقرات والمفاصل أنماط مختلفة في مناطق مختلفة من العالم. وتعتبر معرفة النمط الإقليمي مهمة للتشخيص الصحيح. تهدف هذه الدراسة لتقييم الأعراض والنمط السريري لالتهاب الفقرات والمفاصل بين شريحة المجتمع المنخفضة اقتصاديا واجتماعيا في الباكستان.

**طرق البحث:** خلال الفترة من يوليو ٢٠١٦ إلى يونيو ٢٠١٧، تم إجراء دراسة ملاحظة سريرية في مستشفى تعليمي جامعي للرعاية الثالثة. وكانت العينة التي تم الاختيار منها ٥٠٠٠ شخص في البداية من عيادة الروماتيزم. وتم اختيار ١١٤ شخص وإدراجهم في هذه الدراسة على النحو المحدد في معايير الاشتمال. كما تم تسجيل جميع المتغيرات الديمو غرافية و عمل الفحوصات السريرية الأساسية. وتم تجميع معلومات المريض بناء على المشاهدات الدارجة لالتهاب الفقرات والمفاصل. واستخدمت معايير تشخيص مجموعة الدراسة الأوروبية لالتهاب الفقرات والمفاصل لتشخيص وتصنيف المشاركين بالدراسة.

النتائج: من بين ١١٤ حالة تم تشخيصها في هذه الدراسة، ضمت الدراسة ٣٦٪ (٤١) من الإناث و ٢٢٪ (٢٧) من الذكور. وكان متوسط العمر للمرضى بين ٢٥-٢٥ عاما. وكان الذكور أكثر تضررا بمرتين تقريبا عن الإناث بمعدل ٢: ٤. وكان الذكور في العمر ٣٥-٣٠ عاما الأكثر ضررا. وكانت الأنواع الفرعية الأكثر تشخيصا في كثير من الأحيان التهاب الفقار اللاصق، والتهاب المفاصل التفاعلي والتهاب المفاصل الصدفي. وكانت أكثر الأعراض انتشارا هي التهاب المفصل العجزي الحرقفي، وألم التهاب العمود الفقري والتهاب المفصل الزليلي.

الاستنتاجات: وجدت الدراسة الهيمنة الذكورية لالتهاب الفقرات والمفاصل، ومن بين جميع المرضى الذين شملتهم هذه الدراسة؛ تم تشخيص التهاب الفقار

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اللاصق، والتهاب المفاصل الصدفي والتهاب المفاصل التفاعلي مع الأنواع الفرعية الساندة -لالتهاب الفقرات والمفاصل.

الكلمات المفتاحية: التهاب الفقرات والمفاصل؛ التهاب المفاصل الروماتويدي؛ التهاب المفاصل الصدفى؛ التهاب الفقار اللاصق؛ التهاب المفاصل التفاعلى

## Abstract

**Objectives:** The patterns of spondyloarthropathies (SpA) differ across regions globally, and an understanding of these patterns is important for the correct diagnosis of this condition. The aim of this study was to evaluate the presenting symptoms and clinical patterns of SpA in a community of low socioeconomic status in Pakistan.

**Methods:** This clinical observational study was conducted in a tertiary care teaching hospital from July 2016 to June 2017. Five thousand patients were initially recruited in the rheumatology clinic. A total of 114 patients were finally selected and enrolled in this study, as defined by the inclusion criteria. All demographic variables were recorded and baseline clinical investigations were performed. The European Spondyloarthropathy Study Group (ESSG) diagnostic criteria were used to diagnose the condition and classify the study participants.

**Results:** Of the 114 patients, 64% (73 patients) were men and 36% (41 patients) were women. The mean age of the patients ranged 25–65 years. The men were affected twice as much as women with a ratio of 2:1.4. Men in the age group of 30–60 years constituted a large proportion of the study population. The most frequently diagnosed subtypes were ankylosing spondylitis, reactive arthritis, and psoriatic arthritis. The most common presenting symptoms were sacroiliitis, inflammatory spinal pain, and synovitis.

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**Conclusion:** Males had a higher prevalence of SpA. Ankylosing spondylitis, psoriatic arthritis, and reactive arthritis were the most commonly diagnosed subtypes.

**Keywords:** Ankylosing spondylitis; Psoriatic arthritis; Reactive arthritis; Rheumatoid arthritis; Spondyloarthropathies

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#### Introduction

Spondyloarthropathies (SpA) refer to a family of diseases that share several clinical features. The most distinguishing features are inflammation of axial joints, asymmetric oligoarthritis, dactylitis, and enthesitis.<sup>1</sup> Concurrent genital and skin lesions, and eye and bowel inflammation might be observed.<sup>2</sup> Many patients also experience eye disorders and entheses with joint and systemic manifestations. Several subtypes of spondyloarthropathy occur, including ankylosing spondylitis, psoriatic arthritis, autoimmune arthritis related juvenile idiopathic to arthritis, inflammatory bowel disease, and reactive arthritis. Clinical features include axial arthritis, enthesopathy, peripheral arthritis, and extra-articular manifestation, including psoriasis, uveitis, and inflammatory bowel disease.<sup>3</sup>

An important aspect of management of these patients was the clinical approach, for which several classification criteria were proposed to categorize the patients. In the 1970s, several specific subtypes of spondyloarthritis were defined, such as those in the modified New York criteria.<sup>4</sup> However, these had certain restrictions and focused mainly on axial features. In 1990, the first set of classification criteria for the entire group of spondyloarthritis was proposed by Amor and Colleagues. A different set of criteria were specified by the European Spondyloarthropathy Study Group (ESSG), with inflammatory back pain and peripheral arthritis as the main entry criteria.<sup>5</sup>

The overall prevalence of SpA is approximately 1% in the United States of America. The prevalence of the spondyloarthropathy subtypes is 0.1% for psoriatic arthritis, 0.2-0.5% for ankylosing spondylitis, and <0.1% for both enteropathic peripheral arthritis and enteropathic axial arthritis.<sup>6</sup> A recent Canadian retrospective study reported an increasing prevalence of ankylosing spondylitis.<sup>8</sup> In northern European countries, psoriatic arthritis, ankylosing spondylitis, undifferentiated arthritis, and autoimmune arthritis associated with inflammatory bowel disease accounted for 54.0%, 21.4%, 17.8%, and 2.3% of cases, respectively. The remaining patients had some form of a combination of spondyloarthritis diagnoses.<sup>7</sup> The prevalence of SpA in the Caucasian population is estimated to be approximately 2%; however, there is considerable variation worldwide, depending on geographical location.<sup>8</sup>

To our knowledge, to date, no data have been published regarding the pattern of this disease in developing countries, including Pakistan (where all spondyloarthropathy subtypes are observed in the population). The objective of the present study was to evaluate the pattern and prevalence of SpA and its presenting symptoms in patients of low socioeconomic status in a tertiary center in Karachi, Pakistan.

#### Materials and Methods

A hospital-based clinical observational study was carried out for one year (July 2016 to June 2017) at Jinnah medical college hospital, Karachi, Pakistan. Approximately 5000 patients presented with back pain complaints. Of these patients, 114 were included in this study based on the ESSG criteria. Patients diagnosed with any subtype or characteristics of spondyloarthropathy according to the ESSG criteria including, inflammatory spinal pain, synovitis (asymmetric or predominantly in the lower limbs) and one or more of the following features were included in the study: a positive family history, psoriasis, inflammatory bowel disease, urethritis, gluteal pain, enthesopathy, and sacroiliitis [9].

A detailed history of the patient was recorded, and a thorough physical examination and specific tests were performed and further reviewed. Written informed consent was obtained where possible and verbal consent was obtained if the participants were illiterate. The privacy of the patient was maintained during the history taking and examination. Confidentiality is an essential aspect of our administrative procedures as we understand the importance of protecting the personal information of patients. Therefore, the patients were assured that their personal information including name, age, occupation, and gender, would not be disclosed.

#### Results

Among 114 confirmed cases 73 (64%) were males and 41 (36%) were females. The mean age of the patients was 45  $\pm$ 20.2 years. The male to female ratio was 2:1.4. Out of 114 cases of sero-negative spondyloarthropathies, 36% had psoriatic arthritis, 29% ankylosing spondylitis, 25% reactive arthritis, 8% undifferentiated arthritis and 2% had inflammatory bowel of disease associated arthritis. The highest percentage of patients belonged to psoriatic arthritis followed by ankylosing spondylitis and reactive arthritis. The highest percentage of the patients diagnosed as a case for study belonged to the age group ranging (30-60 years) with some cases of age below 30 years and above 60 years (Table 1). The diagnosis was highest (42.8 years) for psoriatic arthritis followed by 39.5 years for reactive arthritis, 32.8 years ankylosing spondylitis, 31.7-year undifferentiated arthritis and 29.5 years inflammatory bowel of diseaseassociated arthritis. Male dominance was seen in ankylosing spondylitis showing 81.8% and 66.7% in

 Table 1: Demographic data for patients with seronegative spondyloarthropathies according to age group and sex.

|           | Male $(n = 73)$ | Female $(n = 41)$ | Total = 114 |
|-----------|-----------------|-------------------|-------------|
| Sex       | 64%             | 36%               |             |
| Age group |                 |                   |             |
| <30       | 20              | 11                | 31          |
| 30-60     | 45              | 25                | 70          |
| >60       | 8               | 5                 | 13          |
|           |                 |                   |             |

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