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Case Series

The Spectrum of Psoriatic Arthritis: A Polymorphic Puzzle

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Abstract

Background: Psoriatic arthritis was once diagnosed as Rheumatoid arthritis and was treated as such. Its significance as a separate arthritis has evolved after years of studies that revealed its pathogenesis, varied manifestations, and prognosis. It is one of the most common misdiagnosed inflammatory arthritis and requires its voice among the more known forms of arthritis.

Material and Method: Cases coming to Rheumatology OPD with complaints of arthritis, dactylitis, and other associated presentations known in Psoriatic arthritis and its variants were collected. All the cases were extensively evaluated based on history, clinical findings, and investigations.

Results: 6 cases were identified as having presentations of psoriatic arthritis. Patients came with manifestations like dactylitis, asymmetrical polyarthritis, oligoarthritis, SAPHO (synovitis, acne, pustulosis, hyperostosis and osteitis), axial involvement and psoriatic osteoarthritis knee.

Conclusion: This case series illuminates the importance of suspecting psoriatic arthritis in every case of arthritis showing the above-mentioned features as they may not have a classical history of psoriasis always. These patients are often treated with seronegative arthritis or early osteoarthritis. Correct assessment and treatment can improve the outcome in such patients as they may be responsive to different sets of medications and have different prognoses than Rheumatoid arthritis.

Keywords: Psoriatic arthritis, Dactylitis, Spondyloarthritis, SAPHO, Seronegative arthritis.

Introduction

Spondyloarthritis was described in 1976 and since then the understanding of this disorder has come a long way. Wright and Moll were the first to define this condition. Over the past few decades with the advent of technology like Magnetic resonance imaging and new guidelines for the classification of spondyloarthritis and its various types, the spectrum of spondyloarthritis has expanded exponentially. Various presentations of spondyloarthritis need to be kept as differentials in these patients. All the cases of seronegative arthritis with or without extra-articular manifestations need to be thoroughly evaluated for any of these subtypes of spondyloarthritis. Some of these patients might present with only extra-articular manifestations on first presentation which adds to the difficulty in diagnosing such cases. The presentations may vary from axial involvement of spine and hip joints to peripheral arthritis and dactylitis. Extra-articular manifestations in the form of anterior uveitis, inflammatory bowel disease, psoriasis and variants among patients of psoriasis expand the already vast modes of presentations in spondyloarthropathy. [1]

A psoriatic variant of spondyloarthritis is seen in around 30% of spondyloarthritis cases. It is in itself a diverse disease and can involve areas like peripheral joints, axial joints and entheseal sites. Extra-articular manifestations can be in the form of psoriasis and rare cases pustular lesions. 20% of these patients may have destructive joint lesions. [2]

Dactylitis is one of the presenting manifestations in patients with psoriatic variants of spondyloarthritis. Also known as a sausage-shaped digit, it can be seen in about 40% of psoriatic arthritis patients. Although it is not specific to psoriatic arthritis and can be seen in other disorders like Sarcoid, sickle cell anaemia and gout. It represents the inflammatory changes in the sheaths of tendons on the flexor aspect of digits. It may also be associated with periosteal reaction and narrowing of space between the joints. [3]

The pattern of arthritis in psoriatic patients may vary from case to case. Mostly it's an asymmetric presentation, whether it be oligoarthritis or polyarthritis. Patients may have an additional axial joint involvement that can be asymmetric or symmetric again. A specific pattern which may be observed in psoriatic

patients is the involvement of joints of the hands in ray pattern: involvement of all joints from metacarpophalangeal joints to distal joints of fingers. Radiological evaluation of these joints may show erosive arthritis (with a peculiar pencil in cup deformity) and decreased space between joints. Some may have periosteal reaction and later stages may even show ankylosing changes. Rarer variants may have mutilating arthritis with distal phalanges undergoing resorption. [4]

In this case series, we present 6 cases of psoriatic arthritis, all of which had different initial presentations. This case series emphasizes being aware of all these subtypes of psoriatic arthritis as any of them can present as seronegative arthritis which already has an exhaustive list of differential diagnoses apart from the spondyloarthritis group of disorders.

Case Series:

Case 1:

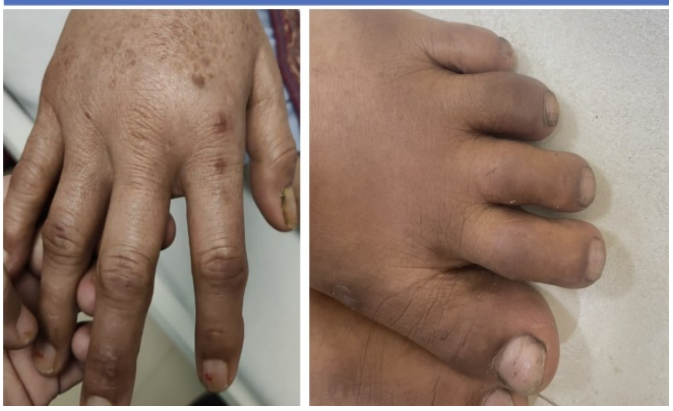
A 45-year-old male came with complaints of pain and swelling in his left middle finger on and off for 1 month (Figure 1). He had similar complaints in the past 6 months back during the winter season. The pain is associated with no tingling sensation, digital discolouration, fever, any other joint pains, back pain, neck pain or discolouration at the local site. There was no history of psoriasis in the patient, redness in eyes, recurrent loose stools, bleeding in stools, oral ulcers, or any previous history of prolonged hospitalization. The patient revealed a history of psoriasis in his father. The investigations revealed raised ESR (erythrocyte sedimentation rate) and CRP (C- reactive protein) (45 mm/hr and 18 mg/dl respectively). HLA B27 (Human leucocyte antigen) by PCR (polymerase chain reaction) was positive. The routine investigations showed normal leucocyte count, urine analysis and x-ray of hands. The patient was diagnosed with Psoriatic Arthritis and started on the Tablet methotrexate 15 mg once weekly and Folic acid 5 mg once every day except on the day of methotrexate.

Figure 1: Middle finger showing swelling (Dactylitis)

Case 2:

A 29-year-old female came with complaints of pain and swelling in multiple joints of her right hand and feet for 2 months. She also had significant morning stiffness for more than 30 minutes associated with pain and swelling. The stiffness was relieved on walking. The pain responded very well to NSAIDS (Non-Steroidal Anti-inflammatory drugs) intake. She had no associated history of fever, redness in eyes, oral ulcers, low back pain or morning stiffness, any recurrent loose stools or blood in stools. She gave a history of psoriasis for which she was treated 5 years back and is now off treatment for 2 years. On examination, the patient had asymmetrical polyarthritis involving joints of both the right hand and left foot (Figure 2). There was no tenderness in sacroiliac joints or any neck pain. No active psoriatic lesions could be seen. On investigation, HLA B27 by PCR was negative, and ESR and CRP were mildly raised (30 mm/hr and 6 mg/dl respectively). The patient was diagnosed with psoriatic arthritis and started on methotrexate 15 mg once every Sunday along with folic acid supplementation. Oral steroids in the form of prednisolone 20 mg once daily were also started.

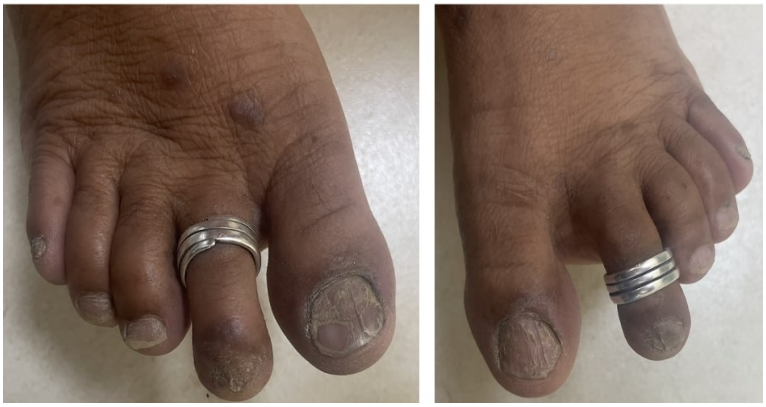
Figure 2: Swelling in multiple joints in right hand and left foot



Case 3:

A 42-year-old female came with complaints of pain and swelling in her right wrist for 6 months. It was associated with mild morning stiffness for not more than 10 minutes. There was no history of trauma, fever, low back ache, neck stiffness in the morning, psoriasis or eczema, redness of eyes, family history of psoriasis and blood in stools. The patient had some skin condition before which was undiagnosed yet. On detailed examination, both her feet showed destructive nail changes which had been present for 8 years (Figure 3). Investigations revealed a positive HLA B27 by PCR and mildly raised ESR and CRP (42 mm/hr and 8 mg/dl respectively). The patient was diagnosed with Psoriatic arthritis and started on low-dose oral prednisolone 10 mg once daily with NSAIDs.

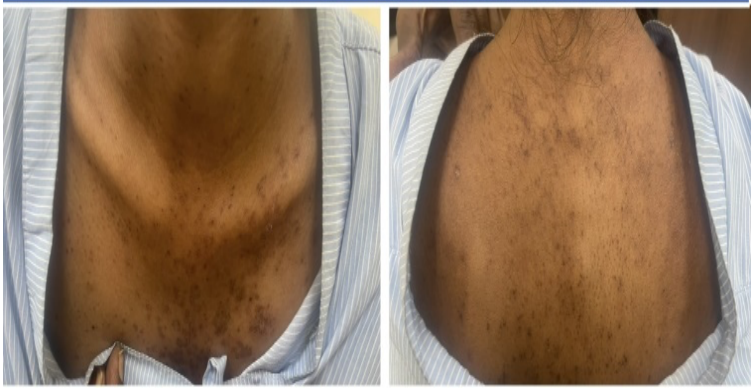
Figure 3: Destructive nail changes on both feet



Case 4:

A 28-year-old female came with complaints of on-and-off joint pains for a few months. Pain usually involves joints of lower limbs, especially ankles and midfoot joints. There was no history of heel pain, or pain in any other joints. There was no significant morning stiffness. The patient was taking over-the-counter painkillers for the same but joint pains returned after stopping those medications. Recently, the patient was on oral steroids for her pain prescribed elsewhere along with NSAIDs. She responded well until she was on them. There was no associated history of fever, raynauds phenomenon, oral ulcers, photosensitivity, low back pain, redness of eyes, psoriasis or blood in stools. The patient gave a history of recurrent pustular lesions over the front of the chest and upper back on and off for 5 years for which she was taking no medications. These lesions sometimes became pustular and healed with hyperpigmentation. On examination, there were multiple healed pustular lesions on the front of the chest and upper back. Musculoskeletal examination revealed no tender or swollen joints at present. The patient was investigated and was positive for HLA B27 by PCR. Her inflammatory markers were within normal limits. Blood leucocyte counts were also within normal limits. The patient was diagnosed with SAPHO syndrome and treated on low-dose oral steroids (prednisolone 10 mg once daily).

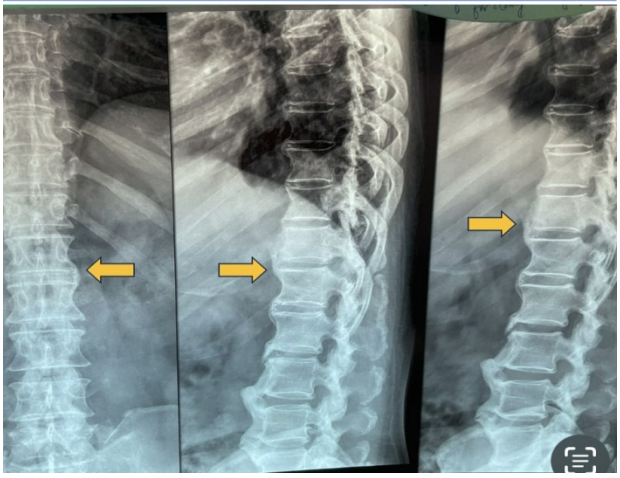
Figure 4: Front of chest and upper back showing healed hyperpigmented pustular lesions



Case 5:

A 32-year-old male came with a history of inflammatory back pain for 4 years associated with mild fever. The patient was on and off on NSAIDS for the same. The patient had a history of psoriasis for which he took treatment a few years back. No documentation of that ocular complaint was available during the consultation. There was no history of pain in peripheral joints, neck stiffness, heel pain or blood in stools. On examination, the patient's general examination revealed a stiff back and there was tenderness along the spine. The movement of the spine was restricted in both anteroposterior and lateral quadrants. No tenderness over sacroiliac joints. No tender or swollen peripheral joints. Patient x-ray of the spine showed fused vertebrae with syndesmophytes. Blood tests revealed elevated inflammatory markers (ESR = 45 mm and CRP = 12). The patient was diagnosed with psoriatic arthritis with axial involvement and started on oral prednisolone 20 mg once daily with etoricoxib 90 mg once daily. The patient was also advised to do back stretching exercises every day twice.

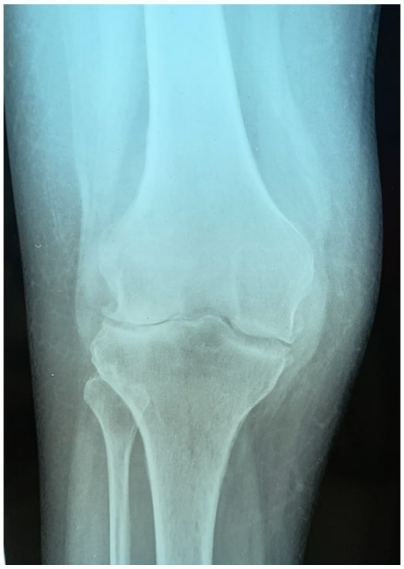
Figure 5: X-Ray thoraco-lumbar spine showing Syndesmophytes (shown via arrows)



Case 6:

A 39-year-old male came with complaints of pain in the right knee for 2 years, more on walking. The pain is not associated with any morning stiffness. History revealed initially patient used to have pain in his heels in the morning with some stiffness in both lower limbs which was relieved on walking for some time. There was also history of psoriasis in his family (sister). There was no other significant history. On examination, the right knee had severe crepitations and tenderness. X-ray showed decreased joint space in both medial and lateral compartments of the knee thus suggesting inflammatory aetiology. The investigations showed normal inflammatory markers and a positive HLA B27 report. The patient was diagnosed with Psoriatic Osteoarthritis and started on NSAIDs.

Figure 6: X-ray Knee (right) showing decreased joint space in both medial and lateral compartments



Discussion:

Spondyloarthritis comprises a group of inflammatory seronegative arthritis, all of which share some similar pathogenic mechanisms and serological findings. These patients were initially thought of as seronegative Rheumatoid arthritis. This group includes disorders like Ankylosing spondylitis to disorders associated with psoriasis and inflammatory bowel diseases. They may affect both children and adults. The predominant musculoskeletal manifestation of these disorders usually is spinal/axial ankylosis along with involvement of peripheral joints, entheseal inflammation, and other features apart from musculoskeletal involvement in the form of Anterior uveitis etc. [5]

Psoriasis-associated arthritis was initially taken as a subtype of Rheumatoid Arthritis. Later on, it became a separate category of arthritis which had several subtypes of its own. As per an article in 1973 by Wright and Moll, it has 5 subtypes: arthritis that involves the DIP joints (Distal interphalangeal joints), less than 4 joints in an asymmetrical fashion, more than 4 joints in a symmetrical fashion (like Rheumatoid arthritis), spinal joints involvement and mutilating arthritis. (1) In our case study we have revealed psoriatic arthritis presenting as dactylitis, asymmetrical arthritis, oligoarthritic and early psoriatic osteoarthritis.

SAPHO syndrome usually presents as a musculoskeletal or skin-related disorder. It was first presented in 1987. It is usually present during childhood but may be seen in 3rd decade also. It may have a remitting and relapsing pattern. Although bone changes are the commonest findings in SAPHO syndrome, skin manifestations are as menacing as bone features. The bone inflammation on histology shows sterile cultures with inflammatory cells. The pain due to bony lesions can be excruciating and worse at night time. Skin manifestations can be in the form of pustules, various forms of acne and even psoriasis. [6] In our case series, the female patient had a history of recurrent pustular lesions on her anterior chest and upper back with some polyarthralgia.

Rheumatologists often treat osteoarthritis and other inflammatory arthritis (psoriatic) with different intent. One is considered an age-related degenerative disease while the other as purely an inflammatory disorder. There exists some comparability between these two distinct entities. Studies have shown psoriatic arthritis presenting only as enthesitis and osteoarthritis knee beginning from enthesitis and not the cartilage. Hence there may be some similarity between these two at the molecular level. These disorders show some differences radiologically. Though both have tendencies to for new bone (syndesmophytes and osteophytes). The destruction of cartilage in osteoarthritis is usually widespread whereas in psoriatic it is discrete. The most common age group in osteoarthritis knee is usually the 5th to 6th decade. [7,8] In our patient with psoriatic osteoarthritis knee, the patient was younger and had a history of psoriasis and a positive HLA B27 report. Also, the decrease in joint space was uniform compared to the usual osteoarthritis knee where it's mostly the medial compartment joint space that's lost first.

These patients of psoriatic arthritis often have negative Rheumatoid factor. CASPAR is a criteria used to classify psoriatic arthritis and has high specificity and sensitivity (98% and 91% respectively). HLA B27 shows a 50% prevalence in psoriatic arthritis subset of patients. (1) In our case series, none of the

patients were positive for Rheumatoid factor and HLA B27 was positive in 3 patients with psoriatic arthritis.

Conclusion

Spondyloarthritis encompasses a variety of presentations that can trick the treating physician and require the utmost insight into all varieties of Spondyloarthropathy. These different presenting features can often be missed without a detailed patient history, especially in the case of Psoriatic arthritis thereby preventing adequate management of such patients. This case series shows a glimpse of the heterogeneity of Spondyloarthropathies.

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