JPSIM Journal of Pakistan Society of Internal Medicine

Case Report

Do Two Clinically Distinct Inflammatory Arthritides" Rheumatoid Arthritis and Axial Spondyloarthritis" Coexist

Maryam Haroon, Nighat Mir Ahmed

National Hospital & Research Centre

Abstract

Rheumatoid arthritis and spondyloarthrides are autoimmune diseases with variable age spectrum at presentation, multi organ involvement but specifically targeting joints in clinically distinct pattern leading to joint damage, making sometimes patient physical activity limited if timely diagnosis and immediate treatment delayed. Previously clinicians often faced difficulty in making earlier diagnosis of Rheumatological diseases due to lack of understanding of correlation of underlying autoimmunity with such diseases and polymorphic inheritance of associated genes but now definite diagnostic criteria made on extensive clinical research by different Rheumatological societies. Moreover radiological advances make it further easier to diagnose seronegative/asymptomatic cases earlier. Presence of two rheumatological diseases at a time in same person of any age group though rare but chances are here in accordance to Meta analysis of different case studies presenting with symptoms not particular for one Rheumatological disease. We are going to report a case of young female patient initially presented with polyarthritis, diagnosed and treated as RA but later having backache, when investigated further, HLA B27. Radiological features were suggestive of early Sacroillitis.

Keywords: Rheumatoid arthritis (RA), Spondyloarthritis (SpA), Rheumatoid factor (RAF), anti cyclic citrulinated peptide (CCP), HLA B27,LBP, schober, Sacroillitis, csDMARDs, tsDMARDs, biologics.

How to cite this:

Haroon M, Ahmed NM. Do two clinically distinct inflammatory arthritides" Rheumatoid arthritis and axial Spondyloarthritis" coexist. J Pak Soc Intern Med. 2025;6(1): 78-81

Corresponding Author: Dr. Maryam Haroon **Email:** ezamaryam911@gmail.com

Received: 20-11-2024 **Revised:** 20-02-2025 **Accepted:** 24-02-2025

DOI: https://doi.org/10.70302/jpsim.v6i1.2516

Introduction

Rheumatoid arthritis (RA) and Spondyloarthritis (SpA) are common cases encountered daily in rheumatology as well as medical outdoors. Though multiorgan but underlying insidious inflammatory process provoked by autoimmunity specifically targets joints in a particular order. As an example we talk about RA that affect predominantly small and medium joints specifically in symmetrical manners, whereas SpA affects axial skeleton with enthesitis, peripheral arthritis mainly hurting large joints of body asymmetrically. A lot of research work trying to convince basic aetiological mechanism but still controversial. Genetic predisposition is important, yet to be reconsidered. HLA B27 is linked to SpA whereas HLA DR4>HLA DR3 for RA. Serological markers are of upmost importance here. In past Rheumatoid factor (RAF) presumed to be main diagnostic marker but later scientific studies provided the world with a precise and most specific serology immune assay for seropositive polyarthritis named anti cyclic citrulinated peptide (Anti CCP). Radiological advances are an early initiative leading towards possible early diagnosis related to spondyloarthritides/SpA when inadequate history won't make reasoning clear. Validation of Diagnostic criteria is questioned in clinical cases with no defined symptoms and absence of obvious radiological features as well good serological biomarkers. HLA B27 gene detection in blood by PCR is exception. Coexistence of two distinct inflammatory arthritides in a young patient is rare but similar cases have been reported among different age groups in remote past. Factors behind such amalgamation of clinical symptoms are polymorphic but might attribute to changes in genetic makeup of an individual with modification in inheritance patterns of responsible genes as an evolutionary change? We present a case of 23 year's old unmarried female undercar of the Rheumatologist for seropositive polyarthritis (RA). Being treated with DMARDs (Disease modifying anti rheumatic drugs) for last few years, presented this time with complaints;

1) Lower back pain (LBP) of inflammatory character for two months
2) Pain at back of heel for few weeks
3) Difficulty in self care activities due to pain in left shoulder joint.

On examination, tenderness localised in lower back region with limited range of motion (ROM) of spine as evidenced by positive modified schobers with preserved chest expansion, possible bilateral (B/L) sacroiliac bursitis, left rotator cuff and B/L Achilles tendonitis. Laboratory parameters showed raised inflammatory markers including high ESR, CRP, and other blood works normal. Repeat RAF, CCP remained positive with high titters. Radiological images pelvis was consistent with Sacroillitis. HLA B27 advised that later came out as detected. Simultaneous axial spondyloarthritis with enthesitis and tendonitis in the setting of rheumatoid arthritis is rare but unfortunately reported and evaluated. Treatment with csDMARDs revised, biologics discussed with patient and her immediate family, short course of NSAIDs prescribed with advice regarding physical therapy and role of lifestyle modifications in disease progression. Symptoms improved after few weeks as informed by her caretaker. Purpose behind such case report is just to enlighten the fact "Two clinically distinct inflammatory arthritides can coexist at a same time in same patient of any age category or gender". Sometimes biased clinicians' narrative related to disease process and financial constraints on patient's behalf might delay diagnosis but if clinical suspicion is there, irrespective of what radiological investigations or blood work results suggest, can be relabelled as seropositive polyarthritis with axial spondyloarthritis. And should be treated according to patient's best interest.

Case presentation

Written informed consent was obtained from patient for publication of this manuscript. A copy of written consent is available for review by the Editor-in- Chief of respected journal. A 23 years-old unmarried girl under care of rheumatology team of well renowned tertiary care hospital for sero positive polyarthritis (RA) for last three years, being treated with csDMARDs including methotrexate at dose 15mg/week (started in May 2021). Unfortunately stopped on last visit dated May 2024 due to recurrent transaminitis and regimen changed to oral Lefluonomide 10mg/day, arthralgias responded partially. She complained of;

1) Persistent lower back pain (LBP) for last 8 weeks.

Gradual in onset, inflammatory character, moderate to severe, intermittent, worsening for 3 weeks, more at bedtime with early morning stiffness>45 min, improved with activity and anti inflammatory medicines use. She scored pain on spinal visual assessment scale as 8/10 as routine self-care/household activities were troubled due to pain.

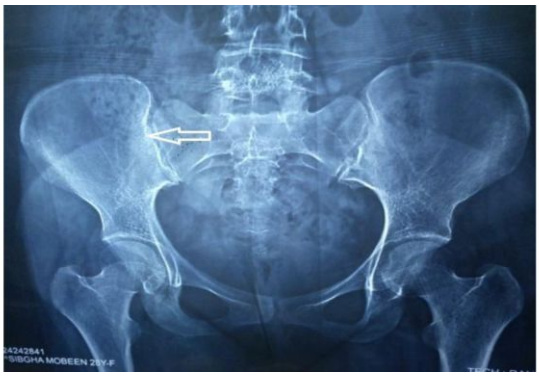
2) Pain at back of both heels for short duration.

She was unable to describe character of heel pain but pinch like gnawing ache at back of heel simply, Achillies tendon while walking/on standing for few minutes, same at day and night.

3) Pain in left shoulder joint on off.

Shoulder pain is of variable character more on doing physical activities like hair combing and changing shirt.

There were no red flags in association with LBP. Review of systems for both seronegative spondyloarthrides and acute/chronic infections was negative. She was Alert and oriented with normal vital signs. General physical examination (GPE) unremarkable. Musculoskeletal exam was consistent with mild scoliosis, tenderness in lower back region with normal muscle bulk, respiratory movements with intact overlying skin. Further evaluation revealed sacroiliac bursitis. Neck slightly flexed with preserved range of movements in all plains. Wall to tragus distance measured to 3cm. Lateral spinal movements couldn't preform due to pain however, forward flexion limited with modified schober positive, finger to floor estimated up to 26cm. Straight leg test negative bilaterally. Slight limitations noted while performing internal rotation of Rt.hip joint, Lt hip ROM normal with FABER -ve. Right ankle warm, swollen but not tender. B/L Achilles tendonitis. Lt rotator cuff tendonitis. Rest of small, medium and large joints were normal. Chest expansion recorded as 5.5 cm. Lung apices & bases both clear. Precordium evaluation found normal. Disease activity index BASDAI score on our clinical assessment of patient calculated to 4.7. Blood works including CBC, LFTs, RFTs, Urine RE found normal. Inflammatory markers like ESR and CRP were significantly raised. Autoimmune assays also done. ANA -ve, ENA Quantrix-ve, repeat RAF +ve 97, Anti CCP +ve 250. HLA B27 gene PCR advised, later results were positive for it. Radiological investigations for example X-ray AP pelvis performed, Grade I Sacroillitis detected (Arrow head pointing towards Sacroiliitis in X-Ray).



MRI SI joints plain with STIR sequences awaited. In above mentioned scenario, active axial spondyloarthritis with dominated pre-existing active seropositive polyarthritis not only clinically as new onset inflammatory back pain, enthesitis, ongoing tendonitis were there but also evidenced by high BADSAI and ASDAS scores. Her disease relabelled as concomitant axial SpA in background of seropositive polyarthritis named as RA. She and her immediate family members got educate about ongoing rare phenomenon in context of inflammatory arthritides. Anti inflammatory drugs with PPI cover prescribed with special advice about physical therapy of back and other lifestyle modifications. Lefulonomide stopped and sulfasalazine 500mg started with weekly titration up to maximum dose of 2gm with strict monitoring of Blood counts and liver transaminases. After 3 weeks, her symptoms got improved partially. She called for next follow up after another week with recommended labs including important ones as perquisites for biologics. Plan was to start targeted synthetic DMARDs (tsDMARDs) if pain not improved. Anti TNF discussed with patient but deferred due to her concerns as she is getting married and plan to conceive as soon as possible.

Discussion

Rheumatological diseases are common now a day. According to statistics, 25 to 40 percent of the population have inflammatory arthritis secondary to autoimmune process[1]. There was a time when due to lack of awareness of symptoms related to autoimmune arthritides in developing countries like Pakistan, India etc, in setting of low economy and lack of logical reasoning despite good manpower, one third of population suffered from severe disability but thanks to researchers and rheumatologists who work very hard and made valuable contribution in related domain in terms of timely Diagnosis and best possible management with available options[2]. Rheumatoid arthritis and spondyloarthritis both are distinct in terms of symptoms, lab parameters, and radiological aspects. Diagnostic criteria are well known, once designed for clear understanding about variations in disease symptoms, age at onset, ethnicity. Activity indices logically explain signs related with disease activity along with important associations, common complications, considering patient own perception about his/her own disease as well taking primary physician opinion. Instant serological immune assays make further validating these criteria more appropriate[3]. Treatment strategies involve csDMARDs, tsDMARDs and biologics with symptomatic management with analgesics/anti inflammatory drugs plus physical therapy. Availability of tsDMARDs where access towards biological DMARDs restricted due to financial constraints make treat to target goal now possible. Accurate aetiology would remain as hot topics for clinical researchers but retrospective as well as prospective RCTs explaining possible mechanisms behind the increasing number of such cases should be considered[3]. Concomitant existence of two inflammatory arthritides including seropositive polyarthritis and Seronegative Spondyloarthritis (SpA) is unusual but not strange4. As in the past two autoimmune diseases were reported in the same person but hypothetical evidence never succeeded in explaining correlation between cause and effect[4]. Such clinical presentations lose focus of clinicians centred where lab results are uncertain and symptoms are more atypical. In the above mentioned case there is no confusion how disease started and treated well as RA4. Perplexity started while being treated with DMARDs despite good adherence and good control of seropositive polyarthritis, new symptoms manifested. There are many possibilities but meta analysis of different homologous studies fails to hypothesise a single well justified cause. New symptoms with underlying polyarthritis, presence of HLA B27 with strong radiological features are enough to reconsider our thought process[5]. Coexistence of two rheumatological conditions side by side might be related to acquired changes in innate immunity for example as in the above mentioned case, the patient was already on immune modulation but emotional stress also confounds phenotypic expression of predisposed genes[5]. The conversation never ended. Purpose of this case report is to just highlight the fact, "irrespective of aetiological mechanisms and other factors, two different inflammatory arthritides with defined pattern joint involvement, with varied spectrum common associations do exist in the same patient"[6]. There is a need to review validation of Diagnostic criteria for related/similar illnesses and look for some common biomarker so diagnosis can be confirmed at earliest[6]. Choice of DMARDs should be such that it can be effective for both diseases without compromising patient compliance with good control of disease activity for sure[7].

Conclusion

Two distinct inflammatory arthritides including seropositive polyarthritis (RA) & spondyloarthritis (axial SpA) can coexist in patients. Aetiology yet to be unidentified. Perhaps modifications in inherent genetic patterns make autoimmunity susceptible. This vulnerability not only justifies variations in disease onset but decides perfect timelines for symptoms complex of such clinical cases. Early diagnosis and timely management reduces patient morbidly. Choice of DMARDs should be selective as disease progression should not affect patient's welfare. Further studies required to see actual number of such phenomenon and trials to figure out the root cause.

Conflict of Interest: *None*
Funding Source: *None*

Authors' Contribution

MH: Conception
NMA: Design of the work
NMA: Data acquisition, analysis, or interpretation
HM, NMA: Draft the work
HM: Review critically for important intellectual content
HM, NMA: Approve the version to be published
HM, NMA: Agree to be accountable for all aspects of the work

References

1. Maksymowych WP, Brown MA. Genetics of ankylosing spondylitis and rheumatoid arthritis: where are we at currently, and how do they compare? Clin Exp Rheumatol. 2009;27(4 Suppl 55):S20–S25.
2. Kahn MF. The history of rheumatoid factor. Rev Rhum Engl Ed. 1995;62(7-8):513-7.
3. Zimmermann-Górska I and Wewnetętrznych PC. Interna Szczeklika. Podręcznik chorób wewnętrznych. Kraków: Medycyna Praktyczna; 2014. Choroby reumatyczne; pp. 1791-1982.
4. Deodhar A, Mittal M, Reilly P, Bao Y, Manthena S, Anderson J, et al. Ankylosing spondylitis diagnosis in US patients with back pain: identifying providers involved and factors associated with rheumatology referral delay. Clin Rheumatol. 2016; doi: 10.1007/s10067-016-3231-z.
5. Zhao SS, Pittam B, Harrison NL, Ahmed AE, Goodson NJ, Hughes DM. Diagnostic delay in axial spondyloarthritis: a systematic review and meta-analysis. Rheumatol (Oxford). 2021;60(4):1620-8.
6. C. Romão V, Santos MJ, Polido-Pereira J, Duarte C, Nero P, Miguel C, Costa JA, et al. Comparative effectiveness of tocilizumab and TNF inhibitors in rheumatoid arthritis patients: data from the Rheumatic Diseases Portuguese Register, Reuma. pt. BioMed Res Int. 2015; 2015(1):279890.
7. Rudwaleit MV, Van Der Heijde D, Landewé R, Listing J, Akkoc N, Brandt J, et al. The development of Assessment of SpondyloArthritis international Society classification criteria for axial spondyloarthritis (part II): validation and final selection. Ann Rheum Dis. 2009; 68(6):777-83.