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Diagnosis of Association Ankylosing Spondylitis and Rheumatoid Arthritis: Case Report with Literature Review

Khadija Baccouche*, Monia Bouzaoueche, Safaa Belghali, Nejla Elamri, Hela Zeglaoui and Elyes Bouajina

Department of Rheumatology, Farhat hached Hospital, Sousse, Tunisia

***Corresponding author:** Khadija Baccouche, Department of Rheumatology, Farhat hached Hospital, Sousse, Tunisia, Tel: 0021697121205; E-mail: bac.khad@yahoo.fr

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Abstract

The probability of one patient has ankylosing spondylitis (AS) and rheumatoid arthritis (RA) is low. It is usually difficult to diagnose the association, indeed we require a careful diagnostic process and more tests are needed. A 21-year-old female patient with coexisting AS and RA was reported here. 9 months later, she developed peripheral polyarthritis, erosion changes on the radiography of Metatarso-phalangeal (MTP), rheumatoid factor and cyclic citrullinated peptide antibody (anti-CCP) were positives. Here, we describe the diagnostic process that we followed.

Keywords: Ankylosing spondylitis; Rheumatoid arthritis

Abbreviations: AS: Ankylosing Spondylitis; RA: Rheumatoid Arthritis; DMARDs: Disease-Modifying Antirheumatic Drugs; MCP: Metacarpophalangeal; MTP: Metatarso-Phalangeal; RF: Rheumatoid Factor; anti-CCP: Cyclic Citrullinated Peptide Antibody

Introduction

Ankylosing spondylitis (AS) and rheumatoid arthritis (RA) are two common types of rheumatic disease. Both can be characterized by the symptoms, serological tests and radiological changes. They have different genetic factors, pathogeneses, and clinical features. Hence, the probability that one patient has AS and RA is low. However, as they have similar clinical manifestations, including morning stiffness, peripheral arthritis, and erosion changes on the radiography, the diagnosis can be difficult and more tests are needed. Moreover, since 1976 some authors reported cases of RA and AS coexisting [1].

Case Report

A 21-year-old female, had a 1-year history of pain in the lumbosacral area, in the Achilles tendon at the back of the ankle, and metatarsal pain, which had been exacerbated for 2 months. The patient felt pain and hard to turned the body over at night, but the pain could be softened after activation in the morning. She underwent a physical examination on hospital admission. Her general health and auscultation of the heart and lungs were normal. Swelling and tenderness in the joints of the four limbs was not observed. The Patrick's test and the Schober test were positive. Laboratory examinations were shown in Table 1. X-ray of the lumbosacral area showed grade 3 bilateral sacroiliitis (Figure 1). There was no obvious X-ray change in the joints of both hands and forefoot. By evaluation of symptoms and signs as well as radiological examination, our diagnosis was AS given the presence of two clinical criteria in association with the radiological criterion per the modified New York criteria for ankylosing spondylitis. She was given indomethacin 100 mg per day as symptomatic treatment, and DMARDs (Sulfasalazine 2 g per day) to control the disease.

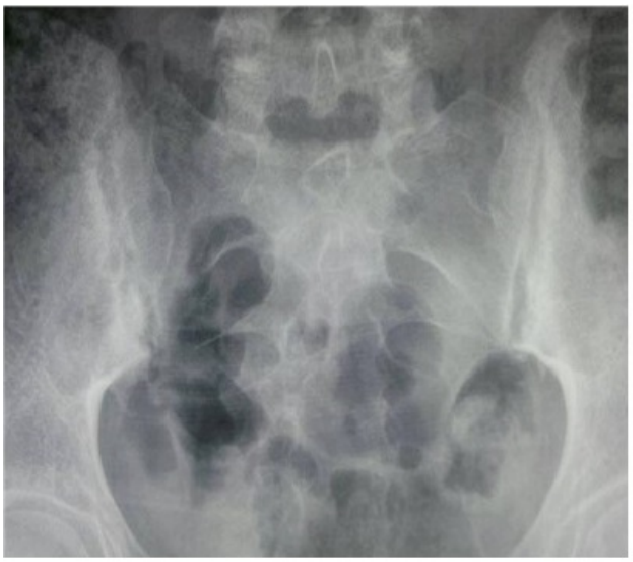

Figure 1: X-ray of the lumbosacral area showed erosion and sclerosis of the middle part of both sacroiliac joints: (grade 3 bilateral sacroiliitis).

The symptoms and signs both improved. However 9 months later, she developed pain in the joints of both hands, forefoot and elbows, predominantly Metacarpophalangeal (MCP) joints. This was accompanied with stiffness in the morning. Two months ago, the joint pain became worse, and involved the wrists and knees. She did not have a dry mouth, dry eyes or Raynaud's phenomenon. She came to our hospital as an AS patient. Her vital signs were normal, and her consciousness level was normal. There was no tumefaction in shallow lymph nodes, and her lungs, heart, and abdomen were also normal. Activation of the spinal column and both lower extremities were normal. However, the Patrick's test was positive. The symptom of tenderness on the MCP joint, wrist and proximal end of the finger joints was positive. There was no limitation of activity in these joints.

Laboratory examinations showed the presence of high titers of serum RF and anti-CCP, which were in accordance with RA (Table 1). X-ray of the sacroiliac joint showed that bilateral bony sclerosis of the sacroiliac joint, and the bone of sacroiliac joint had been destroyed, which were in accordance with the changes seen in AS but it can be seen in RA (Figure 1). X-ray of both forefoot showed erosion changes on the radiography of Metatarsophalangeal (MTP) (Figure 2). These findings were in accordance with the radiological changes seen in RA but it can be seen in AS. To make the differential diagnosis we have examined the levels of HLAB27 and HLA-DR4, which were positives (Table 1). The diagnosis of RA has no doubt, seen the presence of four criteria of the 1987 classification criteria for RA and HLA-DR4, the same for the diagnosis of AS seen the presence of modified New York criteria and HLA-B27. Thus, our diagnosis was coexisting AS and RA. We gave her the DMARDs, methotrexate, salazopyrine, and corticosteroids as symptomatic treatment. Finally, the patient discharged from the hospital when the disease became under control.

	RF 1U/ml	CRP Mg/L	ESR Mm/h	HLA-B27	anti-CCp U/mL	HLA-DR4
Mar-13	170	8	29		78	
Dec-13	210	15	54	Positive	238	Positive

RF: Rheumatoid Factor; CRP: C-Reactive Protein; ESR: Erythrocyte Sedimentation Rate

Table 1: Laboratory examinations of the patient.

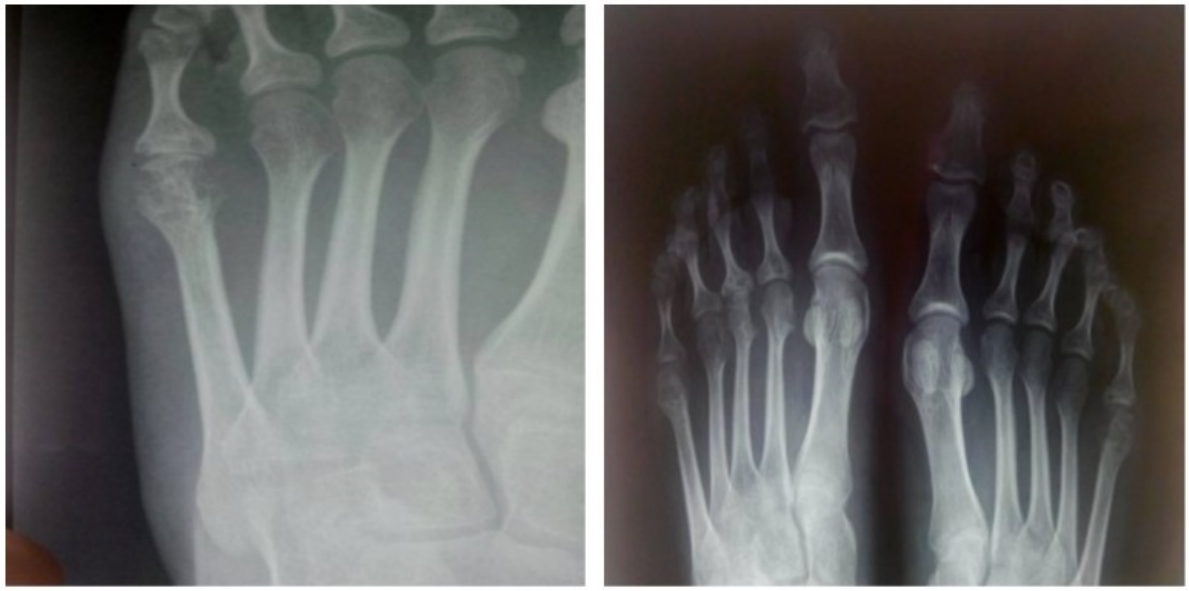

Figure 2: X-ray of both forefoot showed erosion changes on the radiography of Metatarso-phalangeal.

Discussion

In AS-RA-associated cases, some patients have AS at a young age and, after the disease has been quiescent for several years or decades, RA emerges [2]. In our patient, RA occurred 9 months after AS. In general, AS and RA are considered as two independent diseases. AS and RA have different genetic factors, pathogeneses, and clinical features. Hence, the probability that one patient has AS and RA is low. AS primarily involves the central axis joints. Enthesopathy is seen for pathological changes. These changes are asymmetric and rarely involve pain in the joints of the upper extremity [3]. RA mostly involves the facet of four limbs, and is more commonly seen in the upper extremity. This is accompanied with early-morning stiffness in both hands and synovitis, but the involvement of the sacroiliac joint is rare. If the differential diagnosis is difficult, we can examine the levels of HLA-B27, HLA-DR4, HLA-DR2, RF and anti-CCP antibody. As we have observed in our case. The influence of HLA-B27 antigen on the course of RA and the influence of HLA- DR4 on the course of AS is not clear. However, previous studies suggested that there is no erosive polyarthritis in RF positive AS patients, and sacroiliac joint involvement is not commonly seen in the positive HLA-B27 RA patients [4]. Some authors have suggested that AS and RA have identical or similarly causes, because of the various genetic backgrounds that lead a patient to develop AS or RA. So, if a patient simultaneously has the predisposing gene HLA-B27 of AS and predisposing gene HLA-DR4 of RA [5,6], and is affected by an environmental agent, AS and RA can coexist together. Since Fallet et al. reported 9 cases of RA and AS coexisting in 1976 [1], reports in the English literature have been sporadic. Until 1998, there were fewer than 60 case reports [7-9]. The underreporting may be result from lack of clinical observation or examination. Consequently, if one sees a young patient with RA with extra-articular symptoms of AS and evident pathological changes in hip joint (e.g., myotenositis, iridocyclitis, sinus bradycardia), we should ask if there is low-back pain to discover if AS and RA coexist, and a HLA-B27 test and radiological examination on the sacroiliac joint should be carried out. Meanwhile, if one sees an AS patient with symptoms in the peripheral joints such bilateral and symmetrical Synovitis especially of hands with bone erosion, testing for the HLA-DR4 gene, and anti-CCP antibody should be taken. However, AS may manifest itself as peripheral and erosive joint involvement. Moreover, radionuclide scanning and CT may be important tools for detecting sacroiliac disease not only in AS patients

but also in R A patients who may have lumbar pain and sacroiliac lesions [10].

Conclusion

Although they are two independent diseases, rheumatoid arthritis and ankylosing spondylitis may coexist and management must be rigorous and consider not only the musculoskeletal side, but also various extra-articular complications sometimes involving life-threatening.

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Availability of data and materials

The data and materials in this manuscript are not made available to any readers since they contain the patient's personal particulars.

Authors' Contributions

All authors contributed to patient recruitment, prescribed the study medication, and contributed to data analysis and interpretation as well as manuscript drafting. All authors read and approval the final manuscript before submission.

Competing Interests

The authors declare that they have no competing interests.

Consent for Publication

Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

References

1. Fallet GH, Mason M, Berry H, Mowat AG, Boussina I, et al. (1976) Rheumatoid arthritis and ankylosing spondylitis occurring together. Br Med J 1: 804-807.
2. Fallet GH, Barnes CG, Berry H, Mowat AG, Roux H, et al. (1987) Coexisting rheumatoid arthritis and ankylosing spondylitis. J Rheumatol 14: 1135-1138.
3. Wolf J, Fasching P (2010) Ankylosing spondylitis. Wien Med Wochenschr 160: 211-214.
4. Toussirot E, Acquaviva PC (1995) Coexisting rheumatoid arthritis and ankylosing spondylitis discussion of 3 cases with review of the literature. Clin Rheumatol 14: 554-560.
5. Clarke A, Vyse TJ (2009) Genetics of rheumatic disease. Arthritis Res Ther 11: 248-257.
6. Tian X, Jiang M, Qiu C (1998) HLA-DRB1 genes in 5 rheumatic disease multi-case families. Chin Med J (Engl) 111: 208-210.
7. Clayman MD, Reinertsen JL (1978) Ankylosing spondylitis with subsequent development of rheumatoid arthritis, Sjogren's syndrome, and rheumatoid vasculitis. Arthritis Rheum 21: 383-389.
8. Major P, Resnick D, Dalinka M, Kline P (1980) Coexisting rheumatoid arthritis and ankylosing spondylitis. AJR Am J Roentgenol 134: 1076-1079.
9. Guo YY, Yang LL, Cui HD, Zhao S, Zhang N (2011) Coexisting ankylosing spondylitis and rheumatoid arthritis: a case report with literature review. Chin Med J (Engl) 124: 3430-3432.
10. Martinez-Cordero E, Lopez-Zepeda J, Fonseca MC (1992) Rheumatoid arthritis associated with ankylosing spondylitis defined by scintigraphic and CT abnormalities. Clin Rheumatol 11: 574-577.