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CASE REPORT
ΕΝΔΙΑΦΕΡΟΥΣΑ ΠΕΡΙΠΤΩΣΗ

Rheumatoid arthritis with pustular psoriasis
A case report

A 24-year-old woman was admitted to hospital for investigation of polyarthritis and pustular psoriasis. Application of the American College of Rheumatology/ European League Against Rheumatism (ACR/EULAR) criteria established the diagnosis of rheumatoid arthritis (RA), and according to the Classification Criteria for Psoriatic Arthritis (CASPAR) score, the patient also met the criteria for psoriatic arthritis. Imaging studies, specifically hand X-ray and hand computed tomography (CT) showed subluxation at the metacarpophalangeal joints, bone erosion, juxta-articular osteopenia, fusiform soft tissue swelling, and boutonniere appearance consistent with RA. A comprehensive diagnostic approach, including assessment of the clinical features, and laboratory examination and imaging, is required to differentiate between RA and psoriatic arthritis.

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2021, 38(4):539–543

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Ρευματοειδής αρθρίτιδα μαζί με φλυκταινώδη ψωρίαση: Μια ενδιαφέρουσα περίπτωση

Περίληψη στο τέλος του άρθρου

Key words

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Rheumatoid arthritis (RA) continues to be a major health problem.[1] The prevalence of RA is 0.5–1%, the annual incidence is 12–1,200 per 100,000 population, and the mortality varies, ranging from 2% to 32%.[2,3] The typical clinical features of RA are those of inflammatory arthritis, but inflammatory arthritis may be the manifestation of a wide variety of other conditions.[4] In order to establish the diagnosis of RA, therefore, a comprehensive investigation may be required. A major problem is that diagnosis of this disease is often late, and is commonly made when patients have RA of advanced severity,[5,6] which might contribute to the poor prognosis of patients with RA and to a high mortality risk.[7]

The diagnosis of RA is challenging, and several conditions should be considered in the differential diagnosis, including crystalline arthropathy (gout, pseudogout or chronic pyrophosphate arthropathy), spondyloarthropathy, psoriatic arthritis, polymyalgia rheumatica, osteoarthritis, remitting seronegative symmetrical synovitis with pitting edema syndrome, arthritis related to connective tissue disease or systemic vasculitis, malignancy-related arthritis, hypertrophic osteoarthropathy, sarcoidosis, and infectious arthritis (related to hepatitis B and C, HIV and other infections).[8] The diagnosis of RA is particularly challenging when the patient has other conditions, such as malignancy, psoriasis and infection.[9,10] Most reports have identified psoriatic arthritis as the most common condition posing a challenge to the diagnosis of RA.[10]

We present the case report of a patient with RA with pustular psoriasis. The diagnosis of RA in this patient was

challenging because it was difficult to differentiate between RA and psoriatic arthritis.

CASE PRESENTATION

A 24-year-old woman was admitted to the hospital with a 3-year history of joint pain, which had worsened over the previous two years, causing her to be unable to walk. She had visited the health services several times, but her disease was undiagnosed. The patient also complained that her nails became detached from the skin underneath and subsequently grew with an irregular shape. Xerotic lesions of the skin were complained for one year before admission.

On physical examination at admission we found bilateral joint tenderness at the wrist, elbow, shoulder, knee, and ankle, with limitation of the range of motion due to pain. We also observed psoriatic dystrophy of the nails and pustular psoriasis (fig. 1).

Laboratory findings included anemia, rheumatoid factor at borderline level, and anti-nuclear antibody (ANA) test 3.30. X-ray of the hand (fig. 2A) showed subluxation of the metacarpophalangeal joints of the right and left thumb and the proximal interphalangeal joints of the right and left index fingers, and bilateral juxta-articular osteopenia at the proximal interphalangeal and the metacarpophalangeal joints. Endplate erosion and pencil-in-cup appearance were also observed in the distal interphalangeal joints of the right thumb and index finger and the left little finger. Symmetrical joint space narrowing was observed at the proximal and distal interphalangeal joints of the left and right index fingers, middle fingers, ring fingers, and little fingers, and the left and right carpometacarpal joints. Fusiform soft tissue swelling was apparent in the right and left middle, ring, and little fingers. On computed tomography (CT) scan of the hand (fig. 2B), the findings were consistent with those on the X-ray, and we also observed a "boutonniere" appearance. The diagnosis of RA was established on combining the clinical manifestations with the imaging findings.

DISCUSSION

The main challenge in diagnosing RA is that polyarthritis, which is the primary manifestation of the disease, may mimic a variety of other conditions. In the case we describe here, the patient had polyarthritis, and although she had visited several health facilities a definitive diagnosis had not been established. Some physicians concluded that the patient had RA, but others considered that she had psoriatic arthritis. This case was indeed confusing; applying the scoring calculations of the American College of Rheumatology/European League Against Rheumatism (ACR/

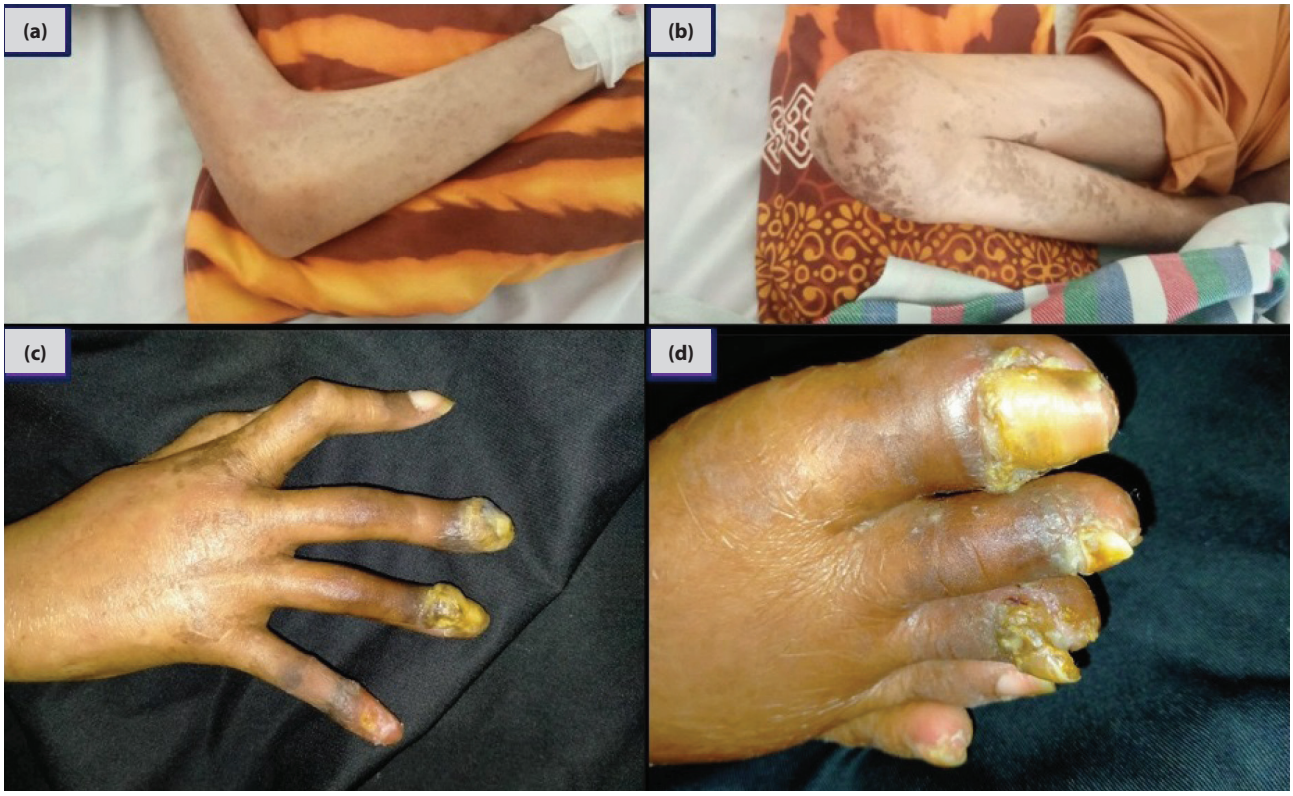

Figure 1. Rheumatic arthritis and pustular psoriasis in a 24-year-old female. Clinical features: (a) Elbow; (b) knee; (c) hand; and (d) foot.

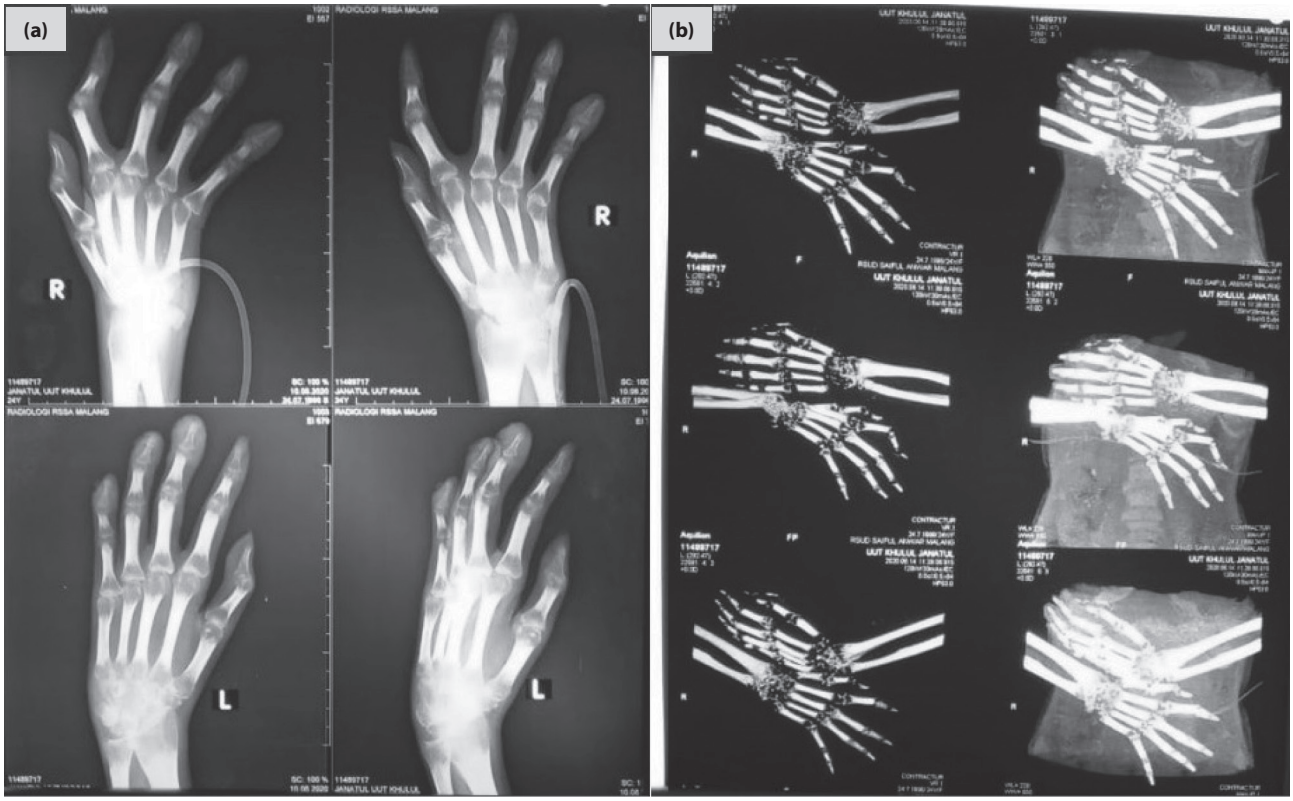

Figure 2. Rheumatic arthritis and pustular psoriasis in a 24-year-old female. Imaging findings in the hands: (a) X-ray; (b) computed tomography (CT) scan.

EULAR) classification criteria for RA,[11] and the Classification Criteria for Psoriatic Arthritis (CASPAR),[12] this patient had scores of 9 and 6, respectively. These results indicated that the patient met the criteria to be diagnosed with either RA or psoriatic arthritis.

Differentiating between RA and psoriatic arthritis is challenging because of their clinical similarity. While approximately 85% of patients with psoriasis may develop psoriatic arthritis, the development usually occurs at about 10 years along the course of psoriasis.[10] In our patient, the manifestation of pustular psoriasis had developed in the last year, while inflammatory arthritis had been present for 3 years. Based on these considerations, a diagnostic approach to differentiate between RA and psoriatic arthritis was our primary objective.

We therefore sought additional evidence in imaging, the role of which in diagnosing RA or psoriatic arthritis has been revealed by Kgoebane and colleagues.[13] On the hand X-ray of our case we observed subluxation at the metacarpophalangeal joints, juxta-articular osteopenia, and fusiform soft tissue swelling, which are known to occur commonly in RA.[14–16] Symmetrical joint involvement is also characteristic of RA, as reported by Merola and colleagues,[10] who observed that joint involvement is predominantly symmetrical in RA, while it is asymmetrical in psoriatic arthritis. In the case of our patient, joint involvement was symmetrical, and we therefore considered that she most likely had RA. However, she also showed the pencil-in-cup deformity, which is commonly found in psoriatic arthritis,[17] so the distinction between RA and psoriatic arthritis was not possible to be established on the X-rays. Subsequently, a CT hand scan was conducted, the results of which were consistent with the X-ray findings, but the hand CT scan, in addition, showed the "boutonniere" appearance, which is common in RA.[18] The diagnosis of RA in this case was established based on the following evidence. Firstly, the manifestations of polyarthritis occurred earlier than the manifestation of pustular psoriasis, whereas the development of psoriatic arthritis in patients with psoriasis usually occurs after approximately ten years. Secondly, the polyarthritis manifestations were symmetrical, consistent with RA rather than psoriatic arthritis, where the joint involvement is usually asymmetrical.[10] Thirdly, the imaging findings in this case, including subluxation at the metacarpophalangeal joints, bone erosion, juxta-articular osteopenia, fusiform soft tissue swelling, and, in particular, the "boutonniere"

appearance, are more commonly found in RA rather than in psoriatic arthritis, as proposed by Vyas and colleagues.[19]

In this paper, we reported the case of RA with pustular psoriasis in a young woman. In this case, determining whether the patient had RA or psoriatic arthritis was challenging, particularly when application of the standard EULAR/ACR criteria and CASPAR criteria failed to establish the diagnosis. In such a case, we should conduct imaging studies to provide additional data to help in the distinction between RA and psoriatic arthritis.

The present case had several limitations. First, the patient could not remember the history of medication, and we could not assess the response to previous treatment. Second, in previous episodes of illness, the patient had visited different health facilities, and we could not assess the earlier medical records, with the result that information related to previous illnesses and previous investigations were not available. Third, additional laboratory examination (HLA-B27 alleles and HLA-DRB1 alleles),[10] which may help to distinguish between RA and psoriatic arthritis was not available in our hospital.

In conclusion, the diagnosis of RA should involve a comprehensive investigation. In cases such as that described here, when the standard diagnostic tools based on specific criteria were unable to establish the diagnosis, additional data from imaging findings can help in the diagnosis of RA.

ΠΕΡΙΛΗΨΗ

Ρευματοειδής αρθρίτιδα μαζί με φλυκταινώδη ψωρίαση: Μια ενδιαφέρουσα περίπτωση

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Μια γυναίκα 24 ετών εισήχθη στο νοσοκομείο λόγω πολυαρθρίτιδας και φλυκταινώδους ψωρίασης. Σύμφωνα με τα κριτήρια του American College of Rheumatology/European League Against Rheumatism (ACR/EULAR) για τον καθορισμό της διάγνωσης της ρευματοειδούς αρθρίτιδας και τα κριτήρια ταξινόμησης της ψωριασικής αρθρίτιδας (CASPAR), η ασθενής πληρούσε τα κριτήρια τόσο για τη ρευματοειδή όσο και για την ψωριασική αρθρίτιδα. Πραγματοποιήθηκε ακτινολογική εξέταση (ακτινογραφία χεριών και αξονική τομογραφία χεριών) και διαπιστώθηκε ότι η ασθενής παρουσίαζε απεξάρθρωση στις μετακαρποφαλαγγικές αρθρώσεις, οστική διάβρωση, οστεοπενία, διόγκωση μαλακού ιστού με σύντηξη και εμφάνιση σημείου μπουτονιέρας, υποδηλώνοντας ότι η ασθενής έπασχε από ρευματοειδή αρθρίτιδα. Για τη διάκριση μεταξύ της ρευματοειδούς αρθρίτιδας και της ψωριασικής αρθρίτιδας απαιτείται αξιολόγηση των κλινικών χαρακτηριστικών, καθώς και της εργαστηριακής και της ακτινολογικής εξέτασης.

Λέξεις ευρετηρίου: Βλάβες ψωρίασης, Διάγνωση, Ρευματοειδής αρθρίτιδα, Ψωριασική αρθρίτιδα

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