Rare rheumatologic disease of elderly patients: Remitting seronegative symmetrical synovitis with pitting edema

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ABSTRACT

Remitting seronegative symmetrical synovitis with pitting edema (RS3PE) is an elderly-onset rare disease. The clinical picture is particularly characterized by arthritis of the peripheral joints, tenosynovitis and edema in the hand and foot dorsum, especially in patients aged 65 years and over. Clinicians should be cautious in such cases as the most important mechanism responsible for pathogenesis may be secondary to an underlying malignancy. In our patient, RS3PE was diagnosed as a result of laboratory, radiological examinations in a patient who presented with symmetrical arthritis in peripheral joints and pitting edema in hand and foot dorsum.

Introduction

Remitting seronegative symmetrical synovitis with pitting edema (RS3PE) is an elderly-onset rare inflammatory disease, and can appear as a first presentation of various types of rheumatic and malignant diseases. It is important that rheumatic diseases seen in the elderly are rare and it may be an image of an underlying secondary condition (1). Therefore, there is a possibility that a paraneoplastic process might be the underlying cause and the patients diagnosed as RS3PE, should be evaluated especially in this regard. Especially, acute onset arthritis of the peripheral joints and edema in the hand and foot dorsum should suggests the disease. It is remarkable that serological tests such as rheumatoid factor (RF) and anti-cyclic citrullinated peptide (anti-CCP) are negative. In our case, RS3PE was diagnosed in a patient who presented with edema on the dorsum of the hand, pain in the shoulder and hand joints, and this rare disease was tried to be reminded to the clinicians.

Presentation of Case

A 69-year-old male patient was admitted to our out-patient clinic with complaints of inflammatory pain in the shoulder and hand joints, morning stiffness and swelling in the hand dorsum. There was no significant finding in the rheumatological system review of the patient who had complaints for about 3 months. On physical examination, metacarpal squeeze test was positive and bilateral shoulder movements were painful. Pitting edema was present in both hands (Figure 1). Acute phase response was found to be elevated as erythrocyte sedimentation rate 63 mm/h (normal range 0-20 mm/h) and C-reactive protein 25 mg/L (normal range 0-5 mg/L). The serum creatinine level was 1.6 mg/dL (normal range 0.6-1.2 mg/dL). Serologic tests, including RF, anti-CCP and ANA, were negative. Bacterial and viral serologies were also negative. Ultrasonographic examination of the dorsal surface of the hand revealed loss of echogenicity, increase in thickness and Doppler signal activity in the subcutaneous tissue (Figure 2). Synovial hypertrophy and grade 2 Doppler signal activity were detected in both MCP 2-3 joints. The patient was suspected to have RS3PE and screened for malignancy with no positive result. From this point the patient was evaluated with chest and abdominal tomography especially because of smoking history. Serum prostatic specific antigen level was studied in terms of prostate malignancies that could

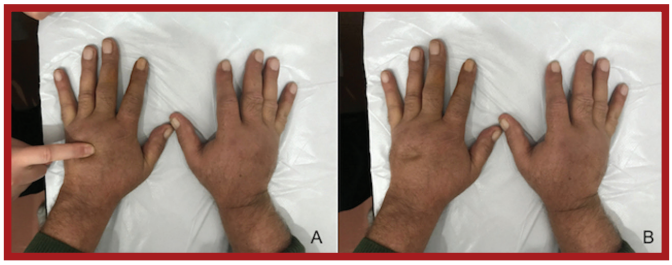

Figure 1. Severe pitting edema of the dorsum of the hand. (A) palpation, (B) after palpation.

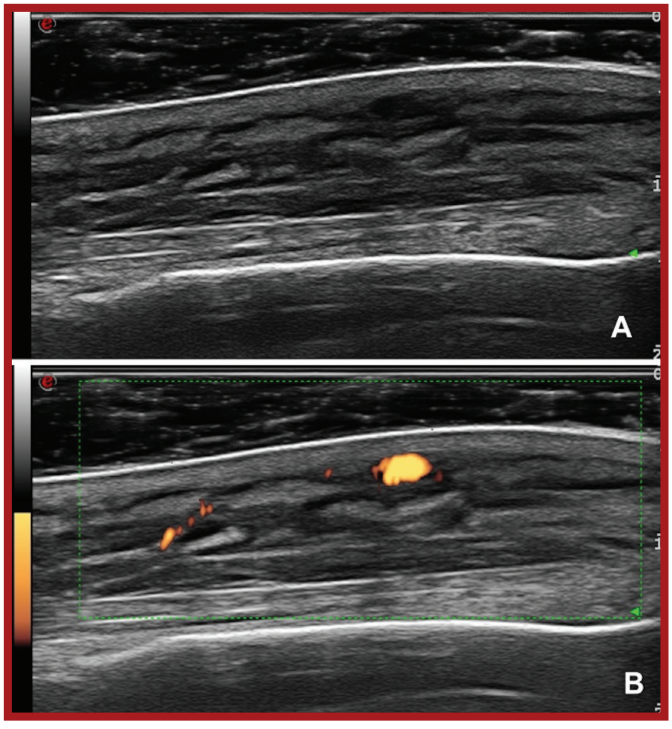

Figure 2. Dorsal longitudinal ultrasound view of hand. Remarkable decrease in echogenicity and increase in thickness of subcutaneous tissue (A) with grade 1 Doppler signal activity (B) are shown.

be accompanied and with upper and lower gastrointestinal system endoscopy, gastrointestinal malignancies were screened. In peripheral blood smear evaluation, there was no atypical finding. 15 mg/day prednisolone therapy was started with the diagnosis of RS3PE. After initial treatment response was seen, leflunomide was added to the treatment and prednisolone was reduced. The patient's complaints were relieved with this treatment.

Discussion

RS3PE syndrome is a late-onset rare inflammatory rheumatologic pathology characterized by edema in the hand and foot dorsum, and accompanying symmetrical seronegative arthritis. Patients are usually over 60 years of age. Although there are some similarities with elderly onset rheumatoid arthritis (RA) and polymyalgia rheumatic (PMR), there are some unique findings that describe the disease (1). Usually arthritis is typical in peripheral joints and accompanying tenosynovitis and morning stiffness can be observed. Patients' complaints have acute onset. In serological tests, RF should be negative. Articular erosion is not usually detected on direct radiography.

The importance of ultrasonography in showing the muscle and joint pathologies in the rheumatology practice is increasing in recent years. In this regard, an ultrasonography study focused on tenosynovitis of hands' and feet' flexor and extensor muscles, authors confirmed that tenosynovitis of both flexor and extensor tendons at the wrist and extensor tendons of the feet is the hallmark of RS3PE syndrome (2). It is also important to demonstrate pitting edema in RS3PE syndrome. Ultrasonography can provide it, as in our case. On hand ultrasonography of our case unlike tenosynovitis, subcutaneous edema findings including loss of echogenicity, increase in thickness and slightly increase Doppler signal activity in the subcutaneous tissue were detected. Because of the possibility of associated malignancies in RS3PE, sometimes FDG PET/CT can be performed to exclude occult tumors. The FDG PET/CT images showed multiple, symmetrically, diffusely increased F-FDG uptake in the soft tissue around joints and bones in the shoulders, hips, knees, and ankles (3). These FDG PET / CT findings support subcutaneous edema findings of ultrasonography. Therefore, ultrasonography is advantageous because it is easily accessible, cheap and time saving.

The presence of arthritis associated with edema in the pathogenesis suggests that the vascular endothelial growth factor (VEGF) secreted primarily from the tumor tissue is due (4). The cause may be VEGF when seen during neoplastic processes, but the pathogenesis is not clear when seen with non-neoplastic conditions. In addition, RS3PE can occur in association with PMR, but also with vasculitis, or spondyloarthritis, or be idiopathic (1,3,5). RS3PE should be distinguished from lymphedema, usually found in association with RA or less frequently with psoriatic arthritis. Compared with RS3PE, lymphedema has a harder feeling on palpation and does not respond to corticosteroid therapy (6). In our case, there was soft edema in palpation of hand dorsum and good response to the corticosteroid therapy. RS3PE heightened suspicion for underlying malignancy is important, especially if the response to corticosteroids is poor. For this reason, the possibility of malignancy in our case was considered unlikely. Based on experience from RA, leflunomide was added to the treatment for being arthritis in our patient. Because of renal insufficiency methotrexate was not considered as the first disease-modifying antirheumatic drug.

In conclusion, it is necessary to distinguish this clinical picture rarely encountered in the rheumatology practice from the point of follow up diagnosis of late-onset RA and PMR, considering the complaints of the patient and examination findings. Especially diagnosed patients should be investigated and screened for secondary malignancies that may be accompanied. It should be kept in mind that it may also be idiopathic. In our case, we are reminded that we need to be awake in terms of the secondary malignancies that may accompany the follow-up of patients with RS3PE diagnosis. As seen in this case, we also re-emphasized the importance of ultrasonography in rheumatology practice.

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Conflict of Interest

The authors declared they do not have anything to disclose regarding conflict of interest with respect to this manuscript.

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