Remitting Seronegative Symmetrical Synovitis with Pitting Edema - A Diagnostic Dilemma

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Abstract: Remitting seronegative symmetrical synovitis with pitting edema is a benign condition characterized by polyarticular joint pain with swelling of dorsum of hand and foot and mainly seen in elderly. It is a diagnosis of exclusion when other causes of polyarticular arthritis are ruled out. It shows dramatic response to steroids. We are presenting a case of middle age female with complaints of swelling of bilateral wrist, ankle and dorsum of hands and feet for 1 year which responded to treatment. [A Singh, Natl J Integr Res Med, 2018; 9(2):97-98]

Key Words: Polyarthritis, synovitis, Rheumatoid factor

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Introduction: Remitting seronegative symmetrical synovitis with pitting edema (RS3PE) is a benign condition mainly seen in elderly [1,2]. It was first described by McCarthy, characterized by swelling of the dorsum of hands and feet, synovitis of elbows and flexor tendinitis of fingers. Arthritis is characteristically sero-negative and no joint destruction is seen [1]. The etiology is multifactorial where infections and environmental agents play a major role [3].Though it is a benign condition responding to low dose steroids with remission in one year, it has associations with malignancy and polymyalgia rheumatica or amyloidosis[2-8].

Case Report: 48 year middle age female presented with complaints of swelling over dorsum of bilateral hands, ankle, wrist and feet for 1year (Fig 1). She also complained of morning stiffness in small joints of hands and feet since 1year. There was no history of fever, cough, weight loss, blurring of vision, stiffness and cramps around shoulder, neck and hip, photosensitive rash, hair fall, raynauds phenomenon, enthesitis and dactylitis. On examination patient is having marked swelling with tenderness on the dorsum of hands and feet with marked restriction of movement. On investigation her Hemoglobin (Hb) was12mg/dl, total leucocyte counts of 6000/mm^3 with normal distribution and adequate platelet count. Her liver function test(LFT) and renal function test (RFT)were within normal limits, C-reactive protein(CRP) was 0.57mg/dl (normal-0.6), Lactase dehydrogenase (LDH) was 540 units per litre and rheumatoid factor (RA), anticitrullinated antibody(Anti-CCP), and Anti nuclear antibody were negative. X-ray of bilateral hands and feet showed no erosion. Ultrasound (USG) of hands showed diffuse synovial hypertrophy and subcutaneous edema over dorsum of bilateral wrist joint and bilateral ankle shows diffuse synovial hypertrophy and tenosynovitis of bilateral peroneal tendons (Fig 2). X-ray of chest and USG of abdomen showied no abnormality. She was started with steroids and within 12 weeks her swelling in dorsum of hands and feet subsided. (Fig 3)

Fig: 1

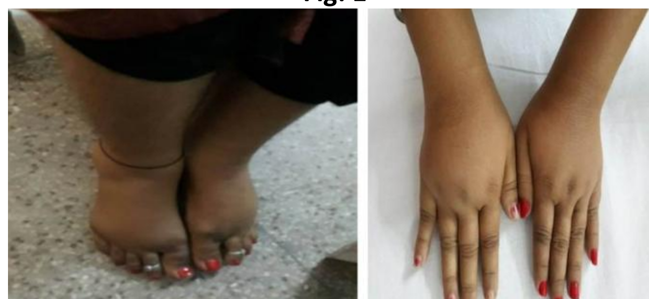


Fig: 2

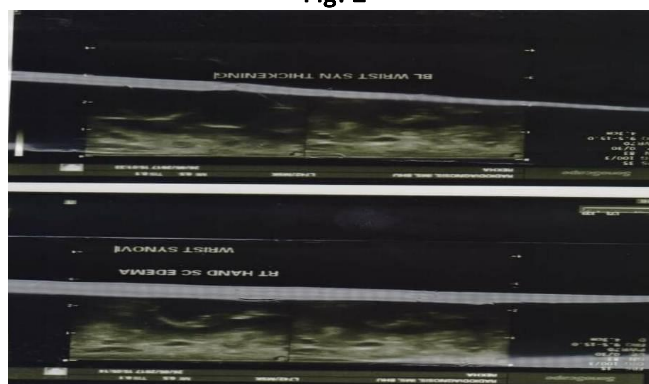
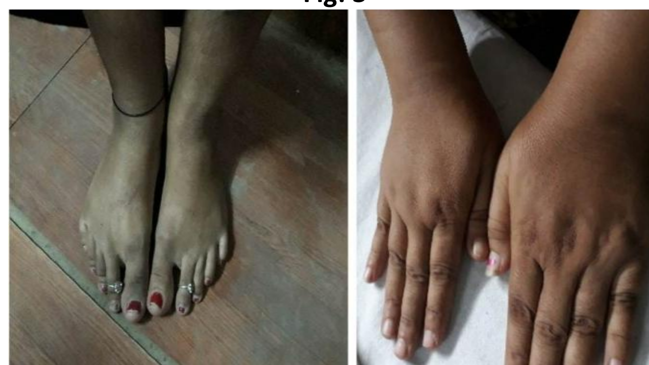


Fig: 3



Discussion: Remitting seronegative symmetrical synovitis with pitting edema (RS3PE) is mainly seen at advanced age although in our case there was early presentation. Main etiology is unknown although environmental factor and infections have their contributions [3]. The pitting edema of hand is confused with seronegative arthropathies like rheumatoid arthritis (RA), connective tissue diseases and polymyalgia rheumatic.

The main difference between RA and Remitting symmetrical seronegative synovitis with pitting edema (RS3PE) is that while the former has got relapse and associated with joint erosions, later is remitting and joint erosions are not seen. Moreover pitting edema in RA occurs asymmetrically and usually positive for rheumatoid factor (RF). In our case patient had symmetrical edema and no joint erosions seen which favours RS3PE.[5]

Polymyalgia rheumatic (PMR) can be differentiated with RS3PE as the former is common in females while the later in males and PMR is associated with pain, stiffness and restriction of shoulder ,neck and pelvic girdle movements. Moreover, ESR ,CRP levels remains elevated in PMR while the levels are normal in RS3PE .The patient in our case was female but she had no stiffness around the shoulder ,neck and pelvic girdle and she had peripheral joint symptoms. Her ESR, CRP levels were within normal limits which excludes PMR.[3,8]

Reactive arthritis and psoriatic arthritis were ruled out as there was no asymmetrical involvement of joints and no dactylitis, enthesitis.

Paraneoplastic syndromes have similar clinical presentations but are unresponsive to steroids[1]. RS3PE is associated with many solid tumours especially adenocarcinoma .The response to steroid is poor .In our case patient has got no systemic symptoms and response to steroid is good .USG of abdomen pelvis and chest X ray not showing any signs of malignancy. Amyloidosis can also be cause of puffy edema but it is progressive and irreversible and occurs in old age and not responsive to steroids[1]. However, in our case patient improved dramatically with steroids.
Treatment of RS3PE is systemic steroids. Chaouat D et al. observed that edema resolve with low dose of steroids in 6- 18 months[4].

Conclusion: A high index of suspicion should be kept in a patient for RS3PE after ruling out all causes of non-resolving seronegative polyarthritis and edema of dorsum of hand and foot.

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