

CASE REPORTS

Remitting seronegative symmetrical synovitis with pitting oedema (RS3PE) case presentation and comparison with other polyarthritides affecting older people

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Abstract

Remitting seronegative symmetrical synovitis with pitting oedema (RS3PE) syndrome mainly affects elderly men and responds well to steroids. Since this syndrome can resemble other diseases, its diagnosis is a significant challenge. Through the following paper, we hope to improve the diagnosis of RS3PE by presenting a table comparing RS3PE to two other common polyarthritic conditions affecting the elderly.

Keywords: RS3PE, paraneoplastic syndrome, older people, polyarthritides

Case report

We describe the case of a 72-year-old man, who has hypertension, hypercholesterolaemia and hyperuricemia (all well controlled). He was referred to us from his primary care physician, who described him as having pain, oedema, functional limitation and dactylitis of the fingers of both hands. Symptoms appeared suddenly and were most pronounced during the morning. Pain was treated with oral NSAIDs but showed no significant response. On examination, there was painful oedema of the dorsum of both hands, causing limitation of movement and function.

A normal ESR and the presence of oedema localised to his hands were exclusion factors for polymyalgia rheumatica (PMR). Rheumatoid arthritis (RA) was excluded as the rheumatoid factor (RF) was negative, there were no bony alteration in the hands and there was absence of damage to the joints. Ankylosing spondylitis was excluded as there were no inflammatory changes in the sacroiliac joints and spine,

and no signs of enthesitis in the vertebral bodies were found. Shober's test was negative for hip pain. Vasculitis, sarcoidosis and psoriatic arthritis were also excluded as skin lesions were absent and laboratory tests were normal (serum proteins, PCR, anti-DNA, anti-ENAs, ANCA, ACE levels, immunoglobulins, hepatic and tumour markers were negative). Other biochemical and blood tests (white cell count, sodium and potassium) and MRI were normal. There were no other systemic or pulmonary symptoms.

Treatment with 10 mg prednisone per day for 4 weeks led to significant recovery. Given the clinical findings, exclusion factors and positive response to corticoid treatment, the RS3PE diagnosis was clear.

Discussion

RS3PE syndrome (remitting seronegative symmetrical synovitis with pitting oedema) occurs mostly in elderly people

Table 1. Principal polyarthritides affecting older people

	RA	RS3PE	PMR
Onset	Sudden or gradual	Usually sudden	Sudden
Sex	Women > men	Men > women	Women > men
Age of onset	30–50 years old	Over 65 years old	±70 years old
Synovitis	Usually severe	Moderate—severe	Moderate
Stiffness	Mornings	Mornings	Little
Radiological erosions	Present	Without	Without
Oedema	Unusual	Always	None
RF	Positive (80%)	Negative	Negative
HLA association	DR 1.4	B7	DR 3.4
Remission	Unusual	Predictable (3–36 months)	Usual (2 years or more)
Response to corticoids	Frequently incomplete	Significant	Significant

HLA, human leucocyte antigen. Based from Ref. [5].

(over 60 years of age) and is demonstrable on the dorsum of the hands. The aetiology of the disease is still not well known [1] but we can classify it as a disease with characteristic clinical features.

RS3PE was first described in 1985 by McCarty [1, 2]. It is more prevalent in men (4:1), and there is a positive association between RS3PE and living in rural areas. RS3PE affects the joints of the limbs with tenosynovitis and also causes pruritis on the dorsum of the hands. The mean age is 71 years [3]. Interestingly, treatment recovery is seen after administration of corticosteroids, and even after withdrawal of treatment the condition continues to improve. Full recovery occurs between 3 and 36 months after starting corticoid treatment [3].

The aetiology of RS3PE is unknown, though some authors relate it to genetic predisposition, infectious diseases or α -TNF released by tumours. In fact, RS3PE could be part of a paraneoplastic syndrome [3] as it has been reported with various carcinomas (gastric, endometrial and pancreatic) and recovery has been observed after total tumour extirpation [2].

Olivé [4] proposed the following diagnostic criteria: patients over 50 years of age, painful oedema of both hands, sudden onset of polyarthritis, RF negative and radiological evidence showing absence of articular destruction or alteration. Instead of an X-ray diagnosis, ultrasound could be used, as it is reliable and inexpensive. Meanwhile, MRI could be helpful for diagnosing tenosynovitis.

RS3PE can be confused with PMR or even with RA, though Table 1 describes key differences to help prevent confusion [5]. Other causes of peripheral oedema include heart failure, hypoalbuminemia, nephrotic syndrome and venous stasis (though venous stasis does not tend to manifest with pitting oedema of the dorsum of the hands).

Typical RS3PE treatment could include NSAIDs, salicylates, hydroxychloroquine, gold salts and corticoids [2]. We

hope our case study illustrates factors that will lead to a correct diagnosis of RS3PE and shows how RS3PE is commonly confused with RA and PMR.

Key points

- RS3PE syndrome is an inflammatory disease, which affects mainly elderly men and responds rapidly to steroids.
- RS3PE could be in some cases a paraneoplastic syndrome.
- This syndrome could be mistaken by other polyarthritis, which normally affects the elderly.

Conflicts of interest

None declared.

References

1. Kundu AK. Syndrome of remitting seronegative symmetrical synovitis with pitting oedema (RS3PE). *J Assoc Physicians India* 2007; 55: 227–30.
2. Dudler J, Gester J, So A. Polyarthritis and pitting oedema. *Ann Rheum Dis* 1999; 58: 142–7.
3. Russell EB, Hunter JB, Pearson L, McCarty DJ. Remitting, seronegative, symmetrical synovitis with pitting edema—13 additional cases. *J Rheumatol* 1990; 17: 633–9.
4. Olivé A, del Blanco J, Pons M *et al.* The clinical spectrum of remitting seronegative symmetrical synovitis with pitting edema. The Catalán Group for the Study of RS3PE. *J Rheumatol* 1997; 24: 333–6.
5. Sekhon L. Remitting seronegative symmetrical synovitis with pitting edema. *JAAPA* 2010; 23: 38–43.

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