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Remitting seronegative symmetrical synovitis with pitting edema (RS3PE) syndrome in an elderly man with hepatocellular carcinoma: A Case Report

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Introduction

RS3PE is a rare syndrome which typically occurred in men above 50 years of age and often happened in elderly man in the presence of neoplasm including hepatocellular carcinoma. It is characterized by the sudden onset of symmetrical polyarthritis or synovitis with the distinguishing feature of pitting edema involving the dorsal hands and feet. Glucocorticoids is the key therapeutic treatment for RS3PE which often results in rapid alleviation of symptoms.

Report

An 84-year-old male with a 2-years history of hepatocellular carcinoma, Child-Pugh A, Barcelona-Clinic Liver Cancer (BCLC) B who had undergone transarterial chemoembolization (TACE) four times presented with bilateral small hand joints pain and stiffness for three weeks duration in addition to constitutional symptoms namely loss of appetite, loss of weight and lethargy. The pain and stiffness had rendered him unable to carry out his daily activities and affecting his sleep at night. There was no family history of autoimmune disease. On examination, the patient was afebrile, both hands appeared edematous with pitting edema and puffy fingers. Tenderness was noted over the metacarpo-phalangeal joints and right 1st interphalangeal joint. Bilateral feet examination was normal. There was no proximal muscle weakness involving the shoulder or pelvic girdle. Rashes were not present. Blood investigations showed high CRP 929.1 nmol/L with negative rheumatoid factor. Hepatitis B Surface Antigen and anti-HCV were non-reactive. Radiologically, both hands X-ray showed both middle fingers mild degenerative osteoarthropathy with joint space reduction and marginal osteophytes. There was no periarticular bone osteopenia, erosion, lytic lesion, or periosteal reaction seen. Bedside musculoskeletal ultrasound revealed subcutaneous edema with joint effusion over fourth proximal interphalangeal joints bilaterally. Hence the diagnosis of RS3PE was made and the patient was started on steroid (tablet prednisolone 5mg bd) treatment. MRI both hands one week post steroid treatment showed almost symmetrical inflammatory changes involving flexor tendon tenosynovitis and synovitis of bilateral metacarpo-phalangeal joints. Repeated 3-Phase CT liver and CECT Thorax/ Abdomen/ Pelvis showed complete ablation of the segment VI and VII hepatoma. Both findings indicate complete radiological response to TACE treatment. Two weeks post steroid treatment, the patient's hands swelling and pain were fully resolved. CRP had reduced to 70.0 nmol/L. Steroid was further tapered and hydroxychloroquine was added.

Image 1: Clinical photograph of the patient's hands pre and 2 weeks post steroid treatment (T. prednisolone 5mg BD) showed resolving of diffuse edema over the dorsum of the hands

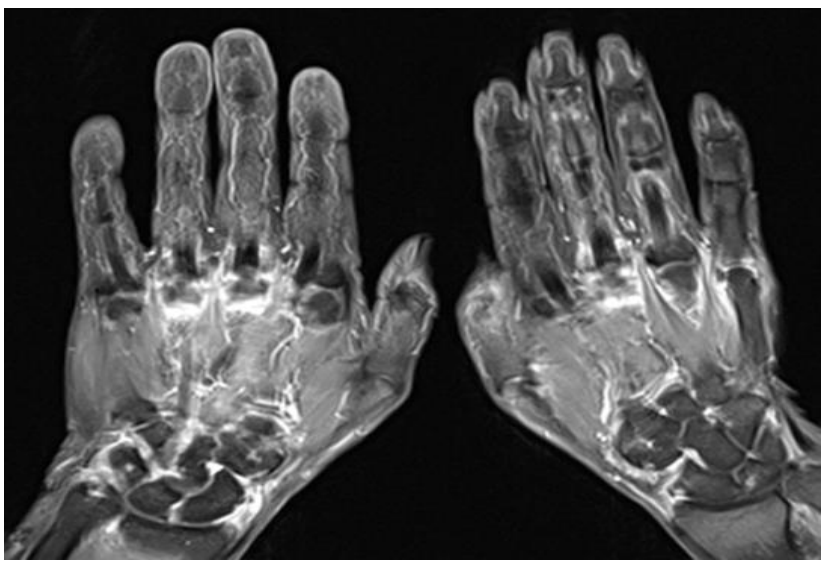

Image 2: MRI both hands post contrast showed relatively symmetry, thickened and enhancing tendons of the of the hands bilaterally with involvement of the carpal, carpo-metacarpals, and metacarpo-phalangeal joints.

Conclusion

RS3PE can be a diagnostic challenge as its presentation may overlap with other rheumatological conditions such as rheumatoid arthritis or polymyalgia rheumatica. It may also be a paraneoplastic condition. A combination of history, physical examination, investigations, and imaging helps to differentiate RS3PE from other illnesses.

References

1. Schulz, N., Müller-Ladner, U., Lange, U. *et al*. Remitting seronegative symmetrical synovitis with pitting edema syndrome: case report of an atypical presentation of a rare syndrome and literature review. *Egypt Rheumatol Rehabil* **51**, 30 (2024).
2. Karmacharya P, Donato AA, Aryal MR, Ghimire S, Pathak R, Shah K, Shrestha P, Poudel D, Wasser T, Subedi A, Giri S, Jalota L, Olivé A. RS3PE revisited: a systematic review and meta-analysis of 331 cases. Clin Exp Rheumatol. 2016 May-Jun;34(3):404-15. Epub 2016 Mar 25. PMID: 27050250.

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