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AN UNUSUAL CASE OF CHRONIC NONSPECIFIC TENOSYNOVITIS OF EXTENSOR TENDON OF RIGHT HAND WITH MULTIPLE RICE BODIES

Orthopaedics

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ABSTRACT

Rice bodies are an uncommon, nonspecific inflammatory structures located both in intra articular and extra articular areas, they are traditionally observed in the joint and tendon sheaths of patients with trauma, bursitis, infectious arthritis like tuberculosis, atypical mycobacterial infection rheumatoid arthritis, and osteoarthritis 1. Rice bodies are also seen without any underlying systemic diseases. Presence of multiple rice bodies with in the tendon sheath is extremely rare. We describe here a rare case of multiple rice bodies that accompanied chronic nonspecific tenosynovitis of the extensor tendons of the hand.

KEYWORDS

hand; tenosynovitis; ricebodies .

INTRODUCTION:

Rice bodies are an uncommon, nonspecific, often intra-articular inflammatory process/ loose bodies and are also located in multiple extra-articular areas, these have been traditionally observed in the joint and tendon sheaths of patients with trauma, bursitis, systemic lupus erythematous, sero-negative arthritis, infectious arthritis like tuberculosis, atypical mycobacterial infection rheumatoid arthritis, and osteoarthritis 1. These generally involve the shoulder and knee joints, the exact aetiology and prognostic significance of rice body formation are still uncertain, we describe here a rare case report of a patient with isolated wrist tenosynovitis with rice bodies in the extensor tendons of right hand .

Case :

A 31yr old man, presented to our outpatient department with progressing pain and swelling over the dorsal aspect of right hand since 7 months. Physical examination revealed a globular swelling on the dorsal aspect of right hand extending onto the wrist and forearm. Attempted active flexion at the wrist was painful though passive range of movements were normal. On further clinical examination no similar type of swellings where noted elsewhere, Laboratory test results were normal, except for an elevated erythrocyte sedimentation rate 50mm/hr, Mantoux test shows induration less than 10mm, investigations for rheumatic disease were negative. Radiograph of the wrist was normal, ultrasonography revealed evidence of synovial thickening and multiple tiny oval shaped echogenic bodies embedded over extensor tendons, Finding were characteristic of tenosynovitis with rice body formation, finally FNAC was done , Surgical exploration of the lesion has revealed multiple ovoid shiny bodies in the thickened extensor tendon sheath. The histo-pathological examination of the excised tissue was reported to be consistent with rice bodies, In addition to nonspecific inflammation of the synovial tissue, fibrin deposits admixed with lymphocytes and histiocytes were observed originating from the synovial surface, the underlying stroma showed mild to moderate chronic inflammatory infiltration and hyperplasia. Postoperative follow-up after 2months has no complaints, at 1year follow up no underlying disease was evident.

IMAGES:

(a) (b)

Figure (a)(b) Clinical photograph showing swelling over the dorsal aspect of the wrist and hand.

(C)

Figure (c) Intra operative photograph showing rice bodies extruded from the wound with milking of the tendon sheath.

(d) (e) (f)

Figure (d) Intra-operative photograph showing multiple rice bodies contained within the synovial sheath of extensor tendon extending distally.

Figure (e) photograph showing complete removal of rice bodies from the affected area.

Figure (f) photograph showing multiple round-to-oval, shiny white bodies consistent with "rice bodies"

DISCUSSION:

Rice bodies where first observed in tuberculosis affected joints in the year 18951. These are an uncommon, nonspecific, inflammatory process/ loose bodies often located intra-articularly and in multiple extra-articular areas. Muirhead et al., in their ultrastructural study, reported that rice bodies can be of multiple origins based on their localizations 2.Cheung et al. reported that the rice bodies arose from infarcted synovial cells and these cells were shed into articular or bursal fluid 3. Rice body formation can be seen in rheumatoid arthritis 4,5, seronegative arthritis, systemic lupus erythematosus, and osteoarthritis 6 . Thus, differential diagnosis is difficult 7. Woon et al. reported that operative findings of rice bodies, millet seeds, or melon seeds are highly suggestive of tuberculous tenosynovitis 8,9.In patients with tendon sheath involvement, symptoms are generally non-specific such as pain and swelling; therefore, it can be diagnosed late due to the lack of systemic symptoms. Some patients may present with carpal tunnel syndrome 10.In rheumatoid arthritis, rice bodies are often observed in the subacrominal bursa but rarely observed in the tendon sheaths. Only a few cases have been reported with rice body formation in the tendon sheaths without tuberculous tenosynovitis. Muirhead et al. reported a case of a 9-year-old boy with rice bodies in the tendon sheath of the right tibialis posterior tendon subsequent to a thorn injury 11 . Sugano et al. reported an 81-year-old man with rice

bodies in the common flexor synovial sheath of the left wrist 12 . In both cases, the rheumatoid factor was negative, and both had no history of tuberculosis. Clinical features of the present case are similar to those reported by Sugano et al. Surgical exploration of the lesion with respect to the neighbouring neurovascular structures was performed, it showed Numerous shiny soft corpuscles consistent with rice bodies in the extensor tendon synovial sheath in the hand, extending proximally, The sheath was notably thickened. Histo-pathological examination of the thickened bursa revealed chronic nonspecific inflammatory changes and villous synovial hyperplasia. Finally in correlation with the clinical, ultrasonographic and histopathologic features the diagnosis was more in favour of chronic nonspecific tenosynovitis of extensor tendons of hand with multiple rice bodies. Postoperative follow-up after 2months has no complaints, at 1year follow up no underlying disease was evident.

CONCLUSION:

Rice bodies are not only found in joints and tendon sheaths of patients with trauma,bursitis ,infectious arthritis like tuberculosis,atypical mycobacterial infections,rheumatoid arthritis and osteoarthritis but also seen without any underlying systemic diseases. Tenosynovectomy with tenolysis is a usefull procedure with low recurrence rate in patients with chronic tenosynovitis of the wrist, surgery doesnot avoid local recurrences but it decresses the progression of the osteocartilagenous distructive process and deterioration of nerve fuction.

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