Tubercular compound palmar ganglion presenting as a severe carpal tunnel syndrome- A case report

Warid Altaf^a, Dheeraj Attarde^{a,*}, Parag Sancheti^a

^a Sancheti Institute of Orthopaedics and Rehabilitation, Pune, India

ARTICLE INFO

Article history:

Received 5 June 2020

Received in revised form

16 June 2020

Accepted 18 June 2020

Available online 4 July 2020

Keywords:

Compound ganglion

Carpal tunnel

Tenosynovitis

Tuberculosis

Atypical tuberculosis

ABSTRACT

Atypical presentation of tuberculosis is not uncommon in developing countries. Among extra-pulmonary sites, tendons are very rarely involved. Compound palmar ganglion associated with tuberculosis is an uncommon condition in which a swelling is present across the wrist joint on either side of the flexor retinaculum. Very rarely such lesion can compress over neural structures and may present as Carpal Tunnel Syndrome. A therapeutic challenge consists of treating disease and its associated presentation. Treatment of choice for such conditions include complete excision of the mass along with the radical synovectomy of the wrist joint and associated flexor tendon sheaths followed by anti-tubercular medications. With early diagnosis and treatment good recovery can be achieved. We present a Case of a large compound tubercular palmar ganglion who presented to us with symptoms of carpal tunnel syndrome which was treated surgically with excision and carpal tunnel release.

© 2020 Delhi Orthopedic Association. All rights reserved.

1. Background

Tuberculous tenosynovitis of the tendons is still a common condition in the developing countries. The route of infection is either hematogenous dissemination or direct inoculation. Varied presentation of this disease poses a significant public health challenge and requires prompt medical and surgical treatment in musculoskeletal affection.^{1,2} This tenosynovitis can form a compound palmar ganglion and mass effect may occur in already tight flexor compartment around wrist resulting in carpal tunnel syndrome.

2. Case report

We present a 45-year-old gentleman, a farmer by occupation who presented with pain and tingling sensation in the left hand. On examination, there was a boggy swelling present across the wrist with all the signs of the median nerve compression in the hand (Fig. 1). The swelling was fluctuant and transmitting a fluid impulse across the wrist joint. On examining the proximal part of the arm and neck there was supra-trochlear lymphadenopathy, however the axillary and the cervical lymph nodes were normal on

palpation. He did not give any previous history of tuberculosis or contact to any tuberculosis patient. There was no history of night sweats, weight loss, chronic cough, dyspnea or hemoptysis. Radiologically the wrist and forearm showed juxta articular osteopenia and soft tissue swelling (Fig. 2). He did not have any clinical stigmata of tuberculosis however his ESR was raised (45 mm) and Mantoux test was positive. We got the nerve conduction studies and MRI for the patient which showed a severe compression of the median nerve at the wrist joint level secondary to a boggy soft tissue lesion from the mid forearm to the mid palm level. We decided to take the patient for exploration and surgical excision of the lesion along with carpal tunnel release to decompress the median nerve. The incision extended from the mid-forearm to the mid-palm level. Intraoperatively we found an extensively large lesion compressing all the structures in the forearm and wrist. The ulnar bursa and the flexor tendon sheaths were completely engulfed in the mass. Meticulously dissecting the lesion, we successfully removed the entire lesion preserving all the important structures.

There was a single large encapsulated mass excised and on opening the capsule of the swelling the rice bodies and melon seeds were identified Intraoperatively (Fig. 3). After complete excision thorough wash was given and the wound was closed

* Corresponding author.

E-mail address: dheerajattarde@yahoo.co.in (D. Attarde).

Fig. 1. Boggy swelling around wrist.

Fig. 2. MRI showing tenosynovitis.

over a suction drain. The histopathological finding confirmed thickened synovia, rice bodies and melon seeds which were altogether suggestive of tubercular tenosynovitis (Fig. 4). As the disease was not advanced and the joint cartilage was preserved, we decided to start early rehabilitation to avoid the dreadful complications like stiffness and reflex sympathetic dystrophy. The range of movement exercises of wrist and hand were started from the second postoperative day and increased according to the patient's pain tolerance. On subsequent follow patient showed complete recovery from numbness, at the end of 3 months, patient gained full function of the affected side, after 6 months of antitubercular treatment (ATT) completion patient was reviewed and there was no sign of recurrence.

3. Discussion

Tuberculous tenosynovitis of the wrist is a well-documented condition and it mainly affects the volar tendons of the wrist.³ Involvement of synovial sheath of hand is quite rare. Tubercular tenosynovitis of the hand constitutes <1% of skeletal tuberculosis. The other conditions which can have a similar kind of presentation are SLE, Rheumatoid Arthritis, Gouty Arthritis, Pigmented villonodular synovitis and sometimes even the fungal infection of the tendon sheaths. There is an ample amount of literature present on compound palmar ganglion presenting with tenosynovitis and tendon ruptures, however a compound palmar ganglion presenting with a compression neuropathy of median nerve is very rare. The diagnosis is often delayed due to slow progression and nature of the disease.⁴ Tubercular Infection of the wrist and

hand is very rare. Diagnosis and treatment of this clinical entity is usually delayed due to asymptomatic swelling. Early diagnosis and treatment are most important as the lesion is destructive. Histopathological exam and culture is mandatory as the same condition mimics other inflammatory conditions like SLE, Rheumatoid arthritis, Gouty arthritis, fungal infections etc.^{5–7} This condition should be treated surgically by wide excision of the lesion, thorough debridement and release of the carpal tunnel to prevent the further recurrences.

4. Conclusion

The diagnosis of a tubercular compound ganglion should always be kept at the back of the mind while treating the patient presenting with a carpal tunnel syndrome in a developing country where tuberculosis is still a common condition. Compound palmar ganglion is a feature of tubercular tenosynovitis in a developing country like India while it is commonly associated with rheumatoid arthritis in the western countries. Slow progression and asymptomatic presentation other than swelling in early stages are main factor for the late diagnosis. MRI with nerve conduction studies is the gold standard investigation. Both surgery and ATT are the mainstay of the treatment of compound palmar ganglion. Early diagnosis and proper management are very important to avoid complications.

Fig. 3. Intraoperative images showing involvement of ulnar bursa and flexor tendon sheath.

Fig. 4. Histopathological appearance showing tubercular tenosynovitis.

Declaration of competing interest

Authors declare no conflict of interest.

References

1. Bayram S, Erşen A, Altan M, Durmaz H. Tuberculosis tenosynovitis with multiple rice bodies of the flexor tendons in the wrist: a report. *Int J Surg Case Rep.* 2016;27:129–132. Jan 1 Case.
2. Stirrat CR. Treatment of tenosynovitis in rheumatoid arthritis. *Hand Clin.* 1989;5(2):169–175. May.
3. Hoffman KL, Bergman AG, Hoffman DK, Harris DP. Tuberculous tenosynovitis of the flexor tendons of the wrist: MR imaging with pathologic correlation. *Skeletal Radiol.* 1996;25(2):186–188. Feb 1.
4. Shen PH, Chu CM, Huang GS, Wu SS, Lee CH. Tuberculous tenosynovitis of the flexor tendons of the wrist and hand. *J Med Sci.* 2002;22(5):227–229. Oct 1.
5. Cuomo A, Pirpiris M, Otsuka NY. Case report: biceps tenosynovial rice bodies. *J Pediatr Orthop B.* 2006;15(6):423–425. Nov 1.
6. Lall H, Nag SK, Jain VK, Khare R, Mittal D. Tuberculous extensor tenosynovitis of the wrist with extensor pollicis longus rupture: a report. *J Med Case Rep.* 2009;3(1):142. Dec 1 Case.
7. Tyllianakis M, Kasimatis G, Athanaselis S, Melachrinou M. Rice-body formation and tenosynovitis of the wrist: a report. *J Orthop Surg.* 2006;14(2):208–211. Aug Case.