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A Case of Compound Palmarganglion Mimicking Giant Cell Tumour

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Abstract: ***Background: Compound palmar ganglion is a progressive swelling and inflammation of the tendon sheath that distends the sheath proximal and distal to flexor retinaculum. It is a tubercular manifestation of flexor tenosynovitis of the wrist. The patients commonly present with a single swelling in the volar aspect of distal forearm with history of past infection with tuberculosis. Depending on severity bones, joint or tendons may get involved. Diagnosis is based on history, clinical findings, lab investigations and radiographs. Clinically the swelling is ill defined or well defined, cross fluctuation may be positive, with local rise in temperature. Lab findings will reveal raised ESR and CRP. If the bones are involved it will show cystic changes with erosion and arthritis. Treatment depends on the severity of the disease. It can be managed both conservatively and surgically however in this case we have gone with a combination of both surgery and medications. Case Presentation: A 68 year old female presented to KURLA BABHA HOSPITAL OPD with complaints of multiple swelling in the volar aspect of left distal forearm since 3 weeks and it was gradually increasing in size. She had evening rise of temperature, with loss of apatite and loss of weight. She had history of pulmonary tuberculosis 5 months back but was not taking medications for the same. Blood investigations were carried out and radiographs were done. Ultrasound of the swelling revealed infected ganglion cyst. MRI of the wrist joint was done to rule out giant cell tumour which revealed infective arthritic changes involving the wrist joint and carpal bones. The patient did not follow up for 7 days. Later she came to the OPD with pus discharge from the swelling on the volar aspect of distal forearm. The localised temperature was raised. She was admitted in the ward and was posted for surgery the following day. Thorough debridement was done . Pus and tissue samples were collected and sent for culture, histopathology examination. The incisions were kept open and sterile dressing was done. She was started on anti tubercular drugs until her reports were awaited. Conclusion: The diagnosis of compound palmar ganglion is usually delayed because it mimics many other infective or inflammatory conditions which can lead to complications. It is a rare complication of primary tuberculosis and is more common in men. Diagnosis in early stage may be difficult but is based on history, examination, blood and radiological investgations. MR imaging will allow assessment of the entire tendon and sheath and helps to rule out infection, inflammation or neoplasia. Biopsy, histopathological examination and culture of organism are the confirmatory test. Early wide excision of the infected tissues combined with antituberculous multidrug therapy gives good functional results and prevents recurrence.***

1. Introduction

Extrapulmonary tuberculous involvement of musculoskeletal system is uncommon accounting for only 10 percent of tuberculosis cases. Still it remains the leading cause of chronic tendon sheath infection. The right hand and wrist are the most common sites of involvement of tuberculous tenosynovitis.

Precipitating factors:
1) Old age
2) Low socioeconomic status
3) Malnutrition
4) Immunosuppression
5) Trauma Etiopathogenesis

1) Hematogenous spread from a distant primary focus.
2) Direct extension from adjacent bone or joint infection
3) Accidental direct inoculation of tubercle bacilli into tendon sheath.

2. Pathology

There are 3 histological forms of compound palmar ganglion as a result of long duration of disease, resistance of individual and varying virulence of micro organism.
1) Hygromatous form: excessive synovial fluid appear within normal appearing tendon sheath.
2) Serofibrinous form: obliteration of tendon sheath with fibrous tissue and caseous inflammatory debris. Rice bodies appear in synovial fluid. Intertendinous adhesions may form or complete rupture may occur.
3) Fungoid stage: involves extensive caseation and granulation tissue formation, causing obliteration of tendon sheath with formation of sinus tracts and cold abscess.

Clinical features:
1) Progressive swelling which is doughy with semifluctuation
2) Mild pain
3) Local warmth
4) Diminished range of motion
5) Local sinus tract formation
6) Mild tenderness
7) Cold abscess
8) Associated history of fever, loss of weight or appetite, night sweats or fatigue.

Diagnosis
1) History
2) General and local examination
3) Investigations: ESR and CRP is raised. Plain x ray reveals soft tissue swelling, osteopenia,joint space narrowing and osseous erosions in chronic cases. USG shows increase in synovial sheath volume, fluid collection and tendon thickening. MRI shows extent of involvement and helps to rule out differential diagnosis. Histopathology reveals large granuloma of epitheloid

cells and caseous necrosis.

Differential diagnosis: pyogenic infection, rheumatoid arthritis, gout, giant cell tumour of tendon sheath, sarcoidosis, pigmented villonodular synovitis of tendon sheath.

Treatment

1) Conservative management: immobilisation, antitubercular drug for 9 to 1 2 months, aspiration and instillation of streptomycin with isoniazid in presence of large fluid.
2) Surgical management: debridement with excision of the involved tendon sheath and synovectomy should be performed.

3. Case Presentation

A 68 year old female presented to KURLA BABHA HOSPITAL OPD with complaints of multiple swelling in the volar aspect of left distal forearm since 3 weeks and it was gradually increasing in size. She had evening rise of temperature, with loss of apatite and loss of weight. She had history of pulmonary tuberculosis 5 months back but was not taking medications for the same.

There was no history of trauma. On clinical examination there were 2 swellings, one in the volar aspect of distal forearm about 5cm above the flexor crease and the other swelling was on the ulnar border of forearm 3cm above the wrist joint. There was no local rise of temperature.

Blood investigations were carried out and radiographs were done.

Radiograph of left wrist AP and Lateral view

Blood investigations revealed rise in ESR and CRP levels. Radiographic picture was mimicking giant cell tumour with cysts in the distal end of radius close to the joint with irregular margins.

Ultrasound of the swelling revealed infected ganglion cyst. MRI of the wrist joint was done to rule out giant cell tumour which revealed infective arthritic changes involving the wrist joint and carpal bones. The extent of involvement was noted. Preop investigations were carried out and patient was advised to get admitted in ward for biopsy of the lesion.

The patient did not follow up for 7 days. Later she came to the OPD with pus discharge from the swelling on the volar aspect of distal forearm. The localised temperature was raised and she had extreme pain. The swelling along ulnar border of forearm also had local rise in temperature with tenderness.

Preop clinical image with sinus tract

She was admitted in the ward and was posted for surgery the following day. Thorough debridement was done of the volar aspect swelling by elongating the incision along the borders of the sinus and a separate incision was taken to debride the swelling along ulnar border of forearm.

Intra op image after thorough debridement

The excised tissue revealed rice grain bodies. Pus and tissue samples were collected and sent for culture, histopathology examination. Both the incisions were kept open. Locally streptomycin injection was instilled and sterile dressing was done. She was started on anti tubercular drugs until her reports were awaited. Post op patient was shifted to ward. Alternate day dressings were done. 6 days post op she was discharged from hospita l and was advised to follow up in opd after 3 days. Until the culture and histopathology reports were awaited she was continued on anti tubercular therapy and dressings were done in the opd. Her histopathology report revealed epitheloid cell granulomas with caseous necrosis and multinucleated giant cell. After routine dressings her wound showed healthy granulation tissue and

she was advised to continue antitubercular therapy for a period of 12 months. She was functionally better with reduced pain.

Clinical Image after multiple dressings

4. Discussion

Tuberculosis is still widely present in many developing countries. Involvement of hand and wrist is rare hence the diagnosis is delayed. Operative finding of rice bodies or melon seeds is highly suggestive of tuberculous tenosynovitis. Early diagnosis, complete debulking and appropriate anti tubercular therapy is needed to overcome this condition. Interfering with the disease before it involves the underlying bones is the main goal of treatment. Recurrence is common after surgical debridement. All patients must be followed up carefully. They should be seen every 3 months during the first year and then every 6 months for five years. Recurrence should be dealt with in a similar manner with excision being recommended without delay in an attempt to preserve the tendons from progressive disintegration.

5. Conclusion

Thus a possibility of tuberculosis in chronic flexor tenosynovitis of wrist should always be kept in mind. The delay between onset of symptoms and diagnosis should be minimised to prevent complications. Early wide excision of the infected tissues combined with antitubercular therapy gives good functional results and prevents recurrence.

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