HAND TUBERCULOSIS: UNUSUAL PRESENTATION

Dr. Sumit Singhal MS, MCh (Plastic Surg.)¹, Dr. Vandana Singhal MD²

¹Associate Professor, Department of Surgery, Pacific Institute of Medical Sciences, Umarda, Udaipur Rajasthan

²Professor & HOD, Department of Pathology, GMC, Dungarpur, Rajasthan

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Address for Correspondence: Dr Sumit Singhal, Associate Professor, Department of Surgery, Pacific Institute of Medical Sciences, Umarda, Udaipur, Rajasthan

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Abstract

Tuberculosis is the ancient disease still prevalent caused mainly by *Mycobacterium tuberculosis*. Pulmonary infection is the most common presentation but involvement of unusual sites is not uncommon. Here we present unusual presentation of this disease.

Keywords: Tuberculosis, Hand, Synovitis, *novitis*.

Introduction:

Tuberculosis is one of oldest bacterial disease still not controlled inspite of various efforts, mainly caused by *Mycobacterium tuberculosis*. In India more than 40% population is having dormant infection of this that flares up with immunocompromisation.

Epidemiology: TB is more prevalent in southern Asia in the world due to overcrowded poor population. In India usually TB patients are not HIV +ve as compared to Africa. The common presentation is pulmonary infections. Lymph nodes are the most common organs to get involved in extrapulmonary TB. Other organs are bones, CNS, joints, skin synovium. Hands are involved in less than 1% cases of overall TB.

Pathophysiology: As inhalation is the most common route of contracting this disease so lungs are primarily affected.

Musculoskeletal TB occurs through hematogenous spread from primary dormant focus, activated by immunosuppression by any means. Lymphatic spread is another route.

Macrophages phagocyte pathogens and release cytokines causing inflammation. Bacteria that survive phagocytosis grow in cells and cause cellular death. Then these bacteria spread via blood to distant organs. Bacteria escape phagocytic destruction and survive macrophages spread through lymphatics with lymph node enlargement and central necrosis.

Pathogens remain inactive in various tissues and reactivated with decrease in immune system.

HAND TUBERCULOSIS

Tuberculosis in hand mainly involves carpal bones, metacarpals and phalanges called tuberculosis dactylitis.

Tenosynovitis is another form of hand TB. For unexplained reason flexor side is mostly affected, ulnar side more than radial side maybe due to more active involvement, as TB is more common in upper limbs than lower limbs, dominant hand more than non dominant side. But one of our case only right index finger is involved in already known case of gout which confused the diagnosis for initial one month.

Another case presented as mid palm painless swelling with limited ROM of middle and ring fingers. Presentation in unusual ways generally delays diagnosis of hand TB. Hand TB may present in various ways like tenosynovitis, ganglion, gouty arthritis, rheumatoid arthritis, granulomas, non healing ulcers discharging sinuses, hypertrophied synovium compressing median nerve as CTS, flexor tenosynovitis of finger manifestation as 'sausage shaped mass'.

Patient may have constitutional symptoms and signs of TB like evening rise temperature, night sweats, weight loss, anorexia, etc.

Supportive laboratory tests are usually not helpful. Histopathological exam (biopsy) of excised tissue is confirmatory. Raised ESR is present. Changes that are visible in X ray come after long time, MRI may reveal rice bodies in 50% of cases.

Diagnosis:

Diagnosis is usually delayed and difficult. Best way is biopsy, presence of acid fast bacilli on smears, culture of *Mycobacterium* bacteria. Polymerase chain reaction (PCR) & IGRA test helps in diagnosis.

Treatment:

This is treatable with more than one drug for minimum 1 year or as per WHO guidelines. It is better to treat these cases under supervision of specialist of tuberculosis.

Surgery is indicated when compression, limited ROM, abscesses, removal of rice bodies, bone spurs, etc are present.

Case presentation:

1A Tubercular Dactylitis

1 B Tubercular Dactylitis

2A Tubercular Synovitis with flexion deformity

2B Findings on operation

2C Thickened synovium due to Tuberculosis
USG findings.

Pic.3 Histopathology of Tubercular synovitis showing granulomatous reaction, Langerhans giant cells, macrophages and epithelioid cells.

Discussion:

Tuberculosis one of the most prevalent disease in the world. Lungs are involved mostly. So we can divide tuberculosis in mainly two groups pulmonary/pleural and extrapulmonary types.

In extrapulmonary types lymph nodes, CNS, genitourinary system intestinal, bones and joints, skin and other sites. Hand involvement is also uncommon, but should be kept in mind as differential diagnosis particularly in Indian scenario.

In hand ulnar side of dominant hand is more affected.

Clinical presentation is like slow growing tumour, limited range of motion of fingers, pain, synovitis, osteomyelitis, verrucose growth on skin, nerve compression symptoms, clinical presentation depends upon virulence of organism and level of immunity of host.

Treatment should be done as per guidelines of WHO under specialist supervision. Surgical management is indicated for nerve decompression, synovectomy, removal of rice bodies, decompression of synovial fluid, abscess, flexor tendon repair for rupture.

Conclusion:

Tuberculosis is still a prevalent disease. Hand tuberculosis is rare involvement. This should be kept in mind as differential diagnosis while seeing clinical cases.

This will not miss or delay the diagnosis and avoid mismanagements.

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