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An Unusual and Rare Presentation of Extra-Pulmonary Tuberculosis

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ABSTRACT

The clinical manifestations of tuberculosis are of two types: Pulmonary and Extra-pulmonary forms of Tuberculosis (EPTB), the former being the commonest. In EPTB highly vascular areas such as lymph nodes, meninges, kidney, spine and growing ends of the bones are commonly affected. The other sites are pleura, pericardium, peritoneum, liver, gastro-intestinal tract, genito-urinary tract and skin. EPTB is defined as TB of organs other than the lungs, such as pleura, lymph nodes, abdomen, genito-urinary tract, skin, joints, bones, tubercular meningitis, tuberculoma of the brain, etc. Diagnosis is based on one culture-positive specimen from the extra-pulmonary site; or histological evidence; or strong clinical evidence consistent with active EPTB disease followed by a medical officer's decision to treat with a full course of anti-TB therapy. Here, in this paper we describe the different manifestations of Extra-pulmonary tuberculosis within three family members living under the same roof in Chennai, Tamil Nadu, India. The patient who presented to us was a 45 year old woman who was found to have a tuberculous compound palmar ganglion; which was excised and started on anti-tuberculous drugs. On evaluation of her history it was found that her son, aged 24 was diagnosed with intestinal obstruction four years back. He was evaluated with CECT and colonoscopy and was found to have multiple polypoid lesions along with luminal narrowing at the level of the sigmoid colon. He underwent resection of the sigmoid colon leaving a 5cm margin on either side with primary end to end anastomosis. The resected specimen was sent for HPE and was confirmed to be of tuberculous pathology. He was further treated with ATT; is on regular follow up and is doing well. Further enquiry also revealed that her husband had been diagnosed with pulmonary tuberculosis 15 years back for which he took medication only for 3 months and discontinued the medication thereafter since he felt symptomatically better.

Keywords: Extrapulmonary tuberculosis, swelling, forearm, tissue diagnosis, RNTCP, surgery

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CASE REPORT

The patient, a 45 year old housewife presented to our OPD with complaints of swellings over her left wrist joint of six months duration. She said that the swelling was initially much smaller and had progressively increased in size to attain the dimension as at the time of presentation. She neither had any history of pain or redness over the swelling nor any restriction in movement of the wrist joint and fingers. There was no history of any trauma to the wrist joint previously, and no history of any similar swellings elsewhere. There was no history of fever either.

She had an interesting family history wherein her son, aged 24 was diagnosed four years back with intestinal obstruction and underwent laparotomy. He was found to have multiple polypoid lesions with luminal narrowing of the sigmoid colon which was the cause of the obstruction and was resected. Histo-pathological examination confirmed a tuberculous pathology. He was subsequently started on ATT (Anti Tuberculous Treatment) for 9 months and successfully completed his course. He has been on regular follow up for the past four years and is doing well.

Her husband, with whom she has been married to for 26 years was also diagnosed with pulmonary tuberculosis twenty years back for which he took medication only for three months and discontinued treatment thereafter since he felt symptomatically better. He hasn't had any further episodes of similar complaints and is presently comfortable.

On examination the swelling was found to be non-tender, nodular and firm in consistency with restricted vertical mobility. Positive cross fluctuation was elicited. All the borders of the swelling could be well made out and the swelling had a smooth surface. Routine blood investigations were normal except for elevated an ESR (Erythrocyte Sedimentation Rate). Sputum for AFB and culture was done and was found to be negative. X-rays of the wrist joint and chest showed no bony deformities and a clear chest respectively. An ultrasound of the wrist joint was done and was reported as a compound palmar ganglion. Surgical excision was planned and executed. A linear vertical incision was made and deepened through the fascial layers to reveal multiple well circumscribed lobulated lesions which seemed to be firmly adherent to the underlying tendon sheath. The specimen was carefully dissected and excised in toto. Complete haemostasis and proper distal digit function was ensured before closing the wound in layers. The cut specimen appeared to have central caseation. Histo-pathological examination reported the specimen as a tuberculous compound palmar ganglion. She has been started on ATT hence and is presently doing well.

Fig 1: Vertical incision over the distal foream

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Fig 2: After separation of the fascial layers

Fig 3: Resected specimen following debulking

DISCUSSION

Chronic flexor tenosynovitis of the wrist, commonly of tuberculous origin is also called compound palmar ganglion. Though the incidence is very less, it is not uncommon in developing countries [1-5]. The clinical picture is very typical and is always confirmed by histopathology. The disease can progress and result in a gross destruction of structures around the wrist and hence requires excision without delay [6].

The wrist is not a common site for tuberculosis [7]. But once infected, it can cause inflammation of all tendon sheaths about the hand and wrist resulting in median nerve compression [7,8]. Interfering with the disease before it involves the underlying bones is the main goal of treatment. Early surgery can improve the patient functionally by preventing a subsequent arthrodesis. Debulking tenosynovectomy and ATT is considered the standard care and is also the recommended treatment favoured in various reports in the literature [9].

Many forms of extrapulmonary TB (EPTB) are paucibacillary, and the diagnosis of EPTB is therefore challenging. Acid-fast bacilli (AFB) smear of biological specimens is often negative. Tuberculin skin testing (TST) and interferon-gamma release assays (IGRAs) are adjunctive diagnostic tools, at best. Constitutional symptoms

associated with EPTB, (such as fever, weakness, and weight loss) may be infrequent and non-specific. In addition, EPTB is less common than pulmonary TB and may be less familiar to clinicians [10].

A high level of suspicion is important in evaluating a patient with presence of risk factors (for full details please refer to risk factor section). The firm diagnosis of TB requires culturing of Mycobacterium tuberculosis and is important for drug-susceptibility testing. Appropriate specimens are obtained and tested microbiologically and histologically. Although culture remains the diagnostic standard, it can take up to 8 to 10 weeks using a solid media, and in 10% to 15% of patients the diagnosis of TB is based on clinical grounds. Delays in diagnosis and initiation of therapy are associated with increased mortality [11].

As the lungs may be involved in patients with EPTB, sputum for AFB smear and culture is indicated for all suspected patients. Culture-positive sputum becomes useful when the specimens from extrapulmonary sites are culture-negative, and it may also add further information on the infectiousness of the patient. Chest x-ray should be part of the basic initial work-up and may show evidence of active or old TB. Tuberculin skin test (TST) or Interferon Gamma Release Assays (IGRA) should be considered in all patients with suspected EPTB, although the sensitivity may range from 30% to 90% depending on the site of disease. A positive TST or IGRA are helpful for diagnosis, but a negative TST or IGRA do not rule out active TB disease.If the suspicion of TB is high or the patient is very ill, consideration can be given to starting anti-tuberculous medicines as soon as diagnostic specimens are obtained.The sensitivity of IGRA to diagnose EPTB is suboptimal.Several molecular diagnostic methods known as nucleic acid amplification tests (NAATs) are available. They are based on amplification of mycobacterial nucleic acid, and include a TB-specific automated, cartridge-based NAAT supported by the US World Health Organization. These methods enable the laboratory to provide the results to clinicians within a day, with higher specificity and sensitivity than AFB smear. Although NAATs were originally designed and approved for respiratory specimens, due to their sub-optimal sensitivity they may also be requested on specimens from other sites where involvement of TB is suspected (e.g., urine, CSF).It is recommended that all patients with TB have an HIV test within 2 months of diagnosis [12].

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