

# Isolated Tarsal Navicular Bone Tuberculosis: A Rare Entity

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**Abstract:** Skeletal TB (STB) contributes to around 10% of Extra Pulmonary TB within which foot is an uncommon Site and that of tarsal navicular bone is extremely rare.

Tuberculosis is a great masquerade and can mimic any infectious pathology. Thus, a very high degree of suspicion is required for it to be diagnosed especially in endemic country like India.

We report a rare case of Tarsal Navicular TB in a 27-year-old Indian Female pt. admitted with history of dull aching pain over dorsum of foot which was treated aggressively with a combination of surgical intervention along with initiation of Anti kochs therapy for 9 months. Patient experienced resolution of symptoms within 4 months of treatment. Thus, early diagnosis and effective management with Anti Koch regimen gives good functional outcomes.

**Introduction:** Tuberculosis has been known to mankind since the dawn of human civilization but still remains a major health problem in India and the developing countries. The most common localization is the [thoracolumbar spine](#) which accounts for up to 50%.

Foot tuberculosis is quite rare with a frequency 5–10% of osteoarticular TB. The most common sites of foot tuberculosis is the calcaneal bone followed by the tarsals.

The patient's prognosis depends on whether lesions are purely intraosseous or are also involving a joint. Thus, the Uncommon site of presentation, lack of awareness and ability to mimic other diseases clinico-radiologically leads to its diagnostic and therapeutic delay.

We present a case of isolated tuberculosis of Navicular bone, treated with anti kochs regimen and surgical intervention of debridement and temporary k wire stabilization of talonavicular joint.

## **CASE:**

A 27 year Old Female presented to us in OPD with complaint of dull aching pain over dorsum of foot since 7 months with occasional complaint of non-inflammatory (cold) swelling and unable to bear weight. The patient did not have any history of trauma or any sign of Infection. And she denied any history of Pulmonary kochs in past.

On examination there was a mild swelling over anteromedial aspect of tarsal navicular bone with tenderness over deep palpation.

Local site was clear with no temperature raise or discharging sinus. Inguinal lymph Node were not palpable.

Range of movement at midfoot specially inversion (10 degree) and eversion (5 degree) were painfully restricted.

Investigations:

Biologically, a hemogram showed Leukocytosis

ESR > 80 mm/hr

CRP 42

HIV -ve

Radiographs of the right foot showed an localized osteolytic lesion over the tarsal navicular bone.

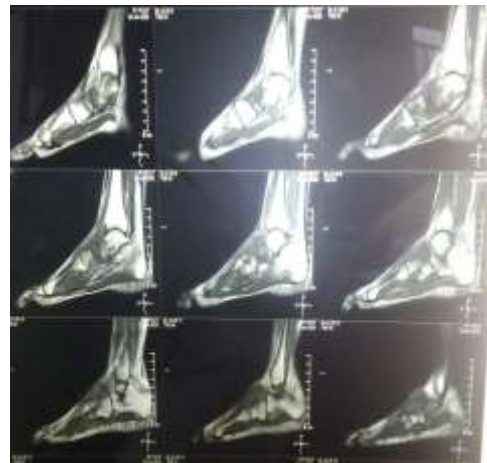
Chest Xray were normal.

NO tuberculin Skin test was performed.

MRI right ankle with foot showed tiny lytic lesion with cortical irregularity and destruction of matrix of navicular bone . There was mild fluid with synovial thickening . s/o infective etiology most probably TB.



**Fig 1.** Orthogonal Radiograph of Foot and ankle



**Fig 2:** MRI Foot



**Fig 3.** Post op Xray Showing K wire stabilization.

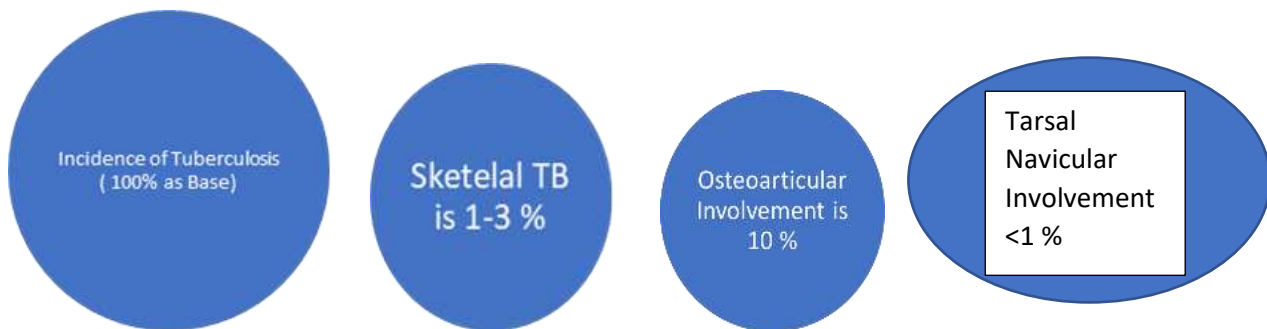
Considering the Clinico-radiological scenario, Arthrotomy, debridement and stabilization with a K wire from navicular to talus was carried out under spinal anesthesia.

Biopsy was taken intraop and sent for Histo-pathological, CB NAAT And Z N stain examinations.

Report of the same showed presence of Acid Fast bacilli and CB – NAAT positive for mycobacterium tuberculosis. And Biopsy showed epithelioid cell granuloma, few Langerhans giant cell. Following the procedure, Anti kochs Treatment under RNTCP Cat. 1 was started and pt. was kept NWB in A BL slab for 6 wks.

At 3 months follow up, the bone showed remineralization on radiograph. With clinical improvement of symptoms and gait.

**Discussion:** Skeletal TB is a leading cause of morbidity and mortality in developing countries especially in India where it is an endemic disease.



Skeletal TB being Extrapulmonary is more challenging than pulmonary TB. It is a great masquerade and can mimic any infective pathology.

TB of Tarsal Navicular is extremely rare and a very high degree of suspicion is required for its diagnosis. It can present in isolation or in combination with other mid tarsal bones.

Clinically symptoms are represented by Pain, swelling, Edema Over dorsum of Foot.

Radiologically, common sign is a lytic lesion of navicular bone but sclerotic appearance may also be observed. And thus, its non-specific.

CT and MRI play an important role in its early diagnosis. Biological Investigations help in diagnosing the disease with elevated ESR and CRP.

The treatment modality with anti-Tubercular drug is the main stay for a course of 9 – 12 months.

Surgery may be indicated as a debridement , curettage or excision of a sequestrum. A bone graft can be performed before the apparition of loss of bone. Plaster Immobilization is recommended. The course and prognosis depend on early diagnosis and therapeutic management.

### **Conclusion:**

- The location of Navicular TB is rare. The diagnosis should be suspected in view of clinical radiological signs, especially in endemic countries.
- The rarity of lesion and its atypical presentation make diagnosis of Navicular TB very difficult on clinical basis.
- The clinical observations of this case highlight the skeletal manifestation of TB and should be considered to prevent delay in diagnosis and therapeutic management.
- A screening for Tuberculosis should always be made in any case of chronic osteolysis or arthritis, especially in endemic country of India.

- Surgical intervention is indicated in case of presence of complication and non-response to Anti kochs Therapy.
- MRI is superior to Xray and CT scan but histological biopsy study remains the gold standard for diagnosis lesion.

Consent: informed consent for publishing case report was obtained from patient.

Competing interests: Author declares that he has no competing interests.

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