



Standard Treatment Workflow (STW) for the Management of

ADULT MUSCULOSKELETAL TUBERCULOSIS

ICD-10-A18.0



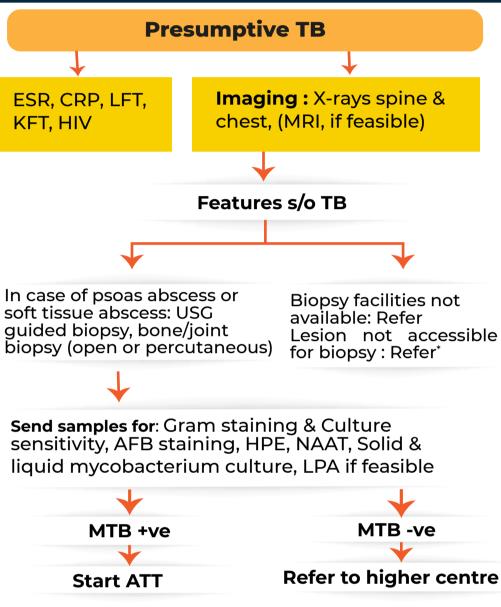
SPINE TUBERCULOSIS

- Persistent localized pain in spine region >6 weeks, night pains
- · Local tenderness/cold abscess
- · Recent onset deformity in the back
- Recent neurological deficit (better to refer*)
- Persistent heaviness around the waist/Girdle pain
- · Fever, cough, weight loss & night pains
- · History of close contact with TB

OTHER JOINTS/BONES

- Persistent localized pain & swelling >6 weeks
- Mono-articular joint involvement
- Discharging sinus (+/-)
- Fluctuant swelling with or without inflammation
- Painful restriction of involved joint movements
- · Wasting around the area
- · Fever, cough, weight loss & night pains
- · History of close contact with TB

DIAGNOSTIC ALGORITHM





Paravertebral shadow

Obliterated disc T₁WI and T₂WI images space & bone loss bone edema with VB in X-rays destruction

T₂WI septate pre/para vertebral abscess in MRI

Findings S/o TB

- X-ray findings(spine):
- Regional Osteopenia
- → Decreased/obliterated disc space
- > Vertebral erosions +/- reduced vertebral height
- › Paravertebral shadow
- MRI findings (Spine):
- Contagious VB involvement with relatively preserved disc
- > Pre & paravertebral septate collection (Abscess)
- > Epidural encroachment +/- intraosseous abscess
- X-ray & MRI Finding (extraspinal):
- Regional osteoporosis with bone destruction on X-rays
- Inflammation of bone(TIWI & T2WI) +/- abscess on MRI

TREATMENT

Treatment should be started & follow-up should be conducted as per NTEP guidelines

The following algorithm provides additional guidance for follow-up

NAAT sensitive to Rifampicin: Start 4 drug

first line ATT

GeneXpert resistant to Rifampicin: refer*/culture for TB and sensitivity to other drugs

Index of suspicion high ESR, CRP raised: Refer*

Index of suspicion low CRP normal:
Reassurance

- Clinical symptoms improvement
- CRP decreasing continue for standard 12 months regime

TB +ve on any test

- Intensive 4 drug regime (not more than 4 months)
- Stop ATT after 12 months if all three parameters clinical, Lab(ESR, CRP) & radiological return to normal
- In case of spine decision to stop ATT to be taken by evaluating healed status on contrast MRI
- $\boldsymbol{\cdot}$ Mildly elevated ESR, CRP (non specific tests) can be ignored
- Follow up every month with CRP, LFT during intensive phase
 Follow up every 3 months during continuation phase with CRP/LFT
- On treatment worsening of symptoms
 - Early (<3 months): Paradoxical
 - Late (>4 months): ?drug resistance
- \cdot Any aberrance in course such as appearnce of nerual deficit: Refer *

Clinical symptoms not improving ESR, CRP increasing: Refer*

TB -ve on all tests

?Suspected drug resistance

*Refer to higher centre where advanced diagnostic, & therapeutic facilities including surgical procedures are available.

ABBREVIATIONS

AFB: Acid-fast Bacillus
ATT: Anti-Tubercular Treatment
CRP: C-Reactive Protein
ESR: Erythrocyte Sedimentation Rate

HIV: Human Immunodeficiency Virus HPE: Histopathological examination KFT: Kidney Function Tests LFT: Liver Function Tests LPA: Line Probe Assay

MRI: Magnetic Resonance Imaging
NTEP: National TB Elimination Programme
TB: Tuberculosis
USG: Ultrason bography
VB: Vertebral body
WNL: Within Normal Limits

REFERENCES

- 1. National TB Elimination Programme, Central TB Division. Training Modules for Programme Managers & Medical Officers. Ministry of Health & Family Welfare, Government of India https://tbcindia.gov.in/index1.php?lang=1&level=1&sublinkid=5465&lid=3540 Last accessed on 10 March, 2022.
- 2. Guidelines for programmatic management of drug resistant tuberculosis in India March 2021. National TB Elimination Programme, Central TB Division, Ministry of Health & Family Welfare, Government of India https://tbcindia.gov.in/showfile.php?lid=3590 Last accessed on 10 March, 2022.

This STW has been prepared by national experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory, and are based on expert opinions and available scientific evidence. There may be variations in the management of an individual patient based on his/her specific condition, as decided by the treating physician. There will be no indemnity for direct or indirect consequences. Kindly visit our web portal (stw.icmr.org.in) for more information.

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