

Cervical Tuberculous Spondylodiscitis in a Patient with Suspected Bone Metastases: A Case Report

Silva B. , Baptista T. , Abecasis J., Rebola J. , Banza J. , Lavareda G. , Berhanu N.
CRI Coluna, ULS São José, Lisboa, Portugal

A concomitant malignancy does not exclude an infectious cause of vertebral destruction.
Histological confirmation changed the diagnosis from suspected bone metastasis to spinal tuberculosis.

INTRODUCTION

- Skeletal TB accounts for 10–15% of extrapulmonary TB; the spine (Pott’s disease) is its most common site
- Cervical involvement is rare but disproportionately morbid, and can mimic pyogenic spondylodiscitis or metastatic bone disease
- We report a case initially interpreted as a pathological fracture from breast cancer metastasis, in a patient with a concurrent, undiagnosed breast carcinoma

10–15%
of extrapulmonary TB is skeletal disease

~3–5%
of skeletal TB involves the cervical spine

CASE PRESENTATION

- 61-year-old woman, Brazilian, resident in Portugal for 8 years; no significant past medical history besides bloody nipple discharge in 2021 (BI-RADS 2, benign)
- Cervical pain for 6 months, mechanical pattern, acutely worsening over the last 2 months after a mechanical strain while mobilising a patient
- Occasional paraesthesia of the upper limbs; no motor or sensory deficits, pyramidal signs negative
- No fever, constitutional symptoms, or known TB contact; labs: mild cholestasis, no elevated inflammatory markers

IMAGING FINDINGS

Cervical CT:

- Pathological collapse of C5 (vertebra plana, <25% of body height)
- Extensive osteolytic lesion of C4, with posterior displacement of C4 on C5
- Concomitant osteolytic lesion of T10, with partial collapse of the superior endplate



Figure 1. Sagittal cervical CT at presentation: vertebra plana of C5 with extensive C4 osteolysis and posterior C4–C5 displacement; D10 osteolytic lesion

Initial differential diagnosis

Vertebral metastasis (breast primary) · Pyogenic spondylodiscitis · Tuberculous spondylitis

TB initially considered less likely, given the synchronous breast lesion, the destructive pattern, and the absence of fever or elevated inflammatory markers.

REFERENCES

1. Jain AK. Tuberculosis of the spine. J Bone Joint Surg Br. 2010;92-B(7):905–913.
2. Garg RK, Somvanshi DS. Spinal tuberculosis: a review. J Spinal Cord Med. 2011;34(5):440–454.
3. Rasouli MR, Mirkoohi M, Vaccaro AR, Yarandi KK, Rahimi-Movaghar V. Spinal tuberculosis: diagnosis and management. Asian Spine J. 2012;6(4):294–308.
4. Rajasekaran S, Soundararajan DCR, Shetty AP, Kanna RM. Spinal tuberculosis: current concepts. Global Spine J. 2018;8(4 Suppl):965–1085.

Conflicts of interest: none declared. Funding: none.

ETIOLOGICAL WORK-UP

- Thoraco-abdomino-pelvic CT: right breast lesion identified
- Breast core-needle biopsy: invasive carcinoma, papillary architecture, luminal A subtype (conventionally ER+/PR+, HER2-negative)

SURGICAL INTERVENTION

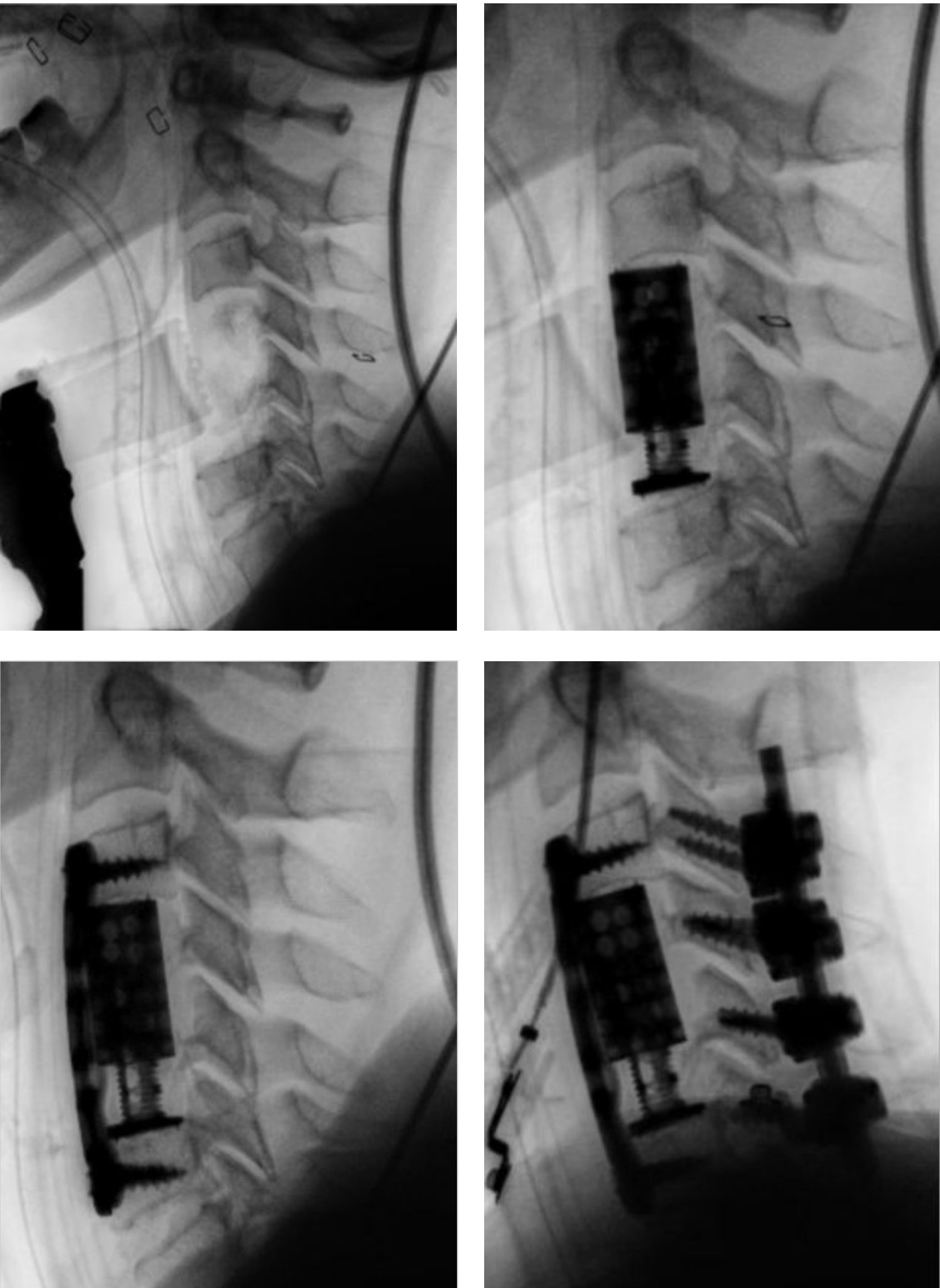


Figure 2. Intraoperative fluoroscopy: combined anterior and posterior approach to the cervical spine

DIAGNOSIS CONFIRMED

Histopathology of the C4–C5 corpectomy specimens:

- Caseous necrosis, epithelioid granulomas, positive acid-fast bacilli staining
- No neoplastic cells – unequivocal tuberculous spondylitis

A CT-guided biopsy of the T10 lesion was also performed, to confirm multifocal disease:

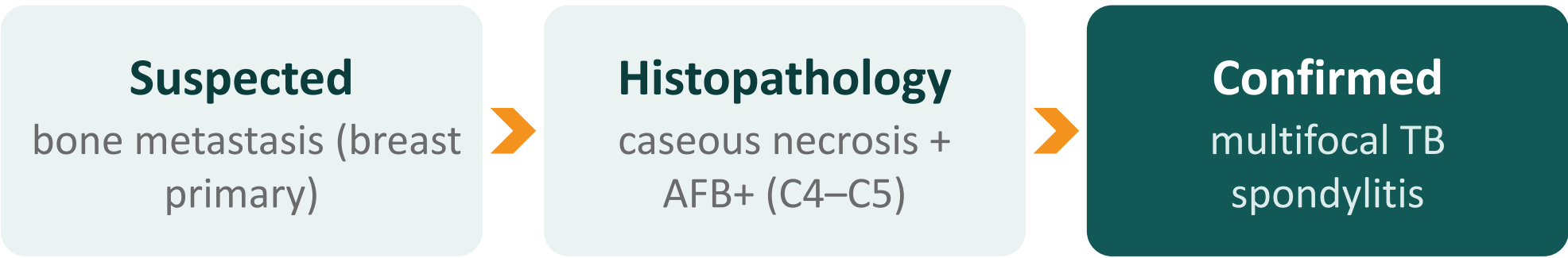


Figure 3. Early postoperative sagittal CT confirming anterior plate and screw fixation.

POSTOPERATIVE COURSE

- Significant pain relief; neurological function preserved

Complication

Wound dehiscence with purulent discharge and fever on postoperative day 8.

↓

Surgical irrigation and debridement; microbiological cultures negative; favourable wound healing.

FOLLOW-UP & MULTIDISCIPLINARY MANAGEMENT

- Multidisciplinary follow-up: infectious diseases, breast surgery, internal medicine, orthopaedics
- Anti-tuberculous therapy: quadruple regimen for 2 months, then rifampicin + isoniazid for 8 months (12 months total)
- Cervical immobilisation for 3 months; breast carcinoma surgery planned after oncological staging



Figure 4. Sagittal CT at 9 months: caudal screws of the anterior plate migrated into the disc space, without plate loosening or mechanical compromise.



Figure 5. Well-healed posterior cervical incision on follow-up.

No neurological deficit or worsening pain at 9 months.
Follow-up ongoing, now 18 months from surgery.

DISCUSSION

- Spinal TB is the most frequent form of osteoarticular TB, usually from occult haematogenous spread
- Cervical disease is rare but disproportionately morbid, given early instability and neurological risk
- Presentation is classically insidious and can closely mimic metastatic or pyogenic disease, as in this case
- Diagnosis requires histopathological or microbiological confirmation; treatment is primarily medical, with surgery reserved for instability or neurological deficit

CONCLUSION

- Tuberculous spondylitis is an important differential diagnosis in pathological-appearing spinal fractures, even alongside a plausible primary malignancy
- Histopathologic diagnosis is essential before presuming metastatic disease
- Early stabilisation, decompression and multidisciplinary management underpin a favourable outcome

8. He M, Xu H, Zhao J, Wang Z. Anterior debridement, decompression, bone grafting, and instrumentation for lower cervical spine tuberculosis. Spine J. 2014;14(4):619–627.
9. Yang P, Zang Q, Kang J, Li H, He X. Comparison of clinical efficacy and safety among three surgical approaches for the treatment of spinal tuberculosis: a meta-analysis. Eur Spine J. 2016;25(12):3862–3874.
10. Baranowska A, Baranowski P, Baranowska J, Plusa T. Spinal tuberculosis – a case report. Clin Surg. 2020;5:3002.