Resource-Limited ENLS
Spinal Cord Compression

Considerations for resource-limited settings: Management of spinal cord compression in resource-limited settings is likely to be constrained by resource gaps similar to those that affect patients with traumatic spine injury (see "Resource-limited considerations" in the *ENLS Traumatic Spine Injury* module). Because most patients with spinal cord compression in resource-limited settings will not have immediate access to spine imaging, a working diagnosis must be established on clinical grounds in order to guide early management. After differentiating between paraplegia and quadriplegia and assessing circulation, airway, and breathing, a detailed history should focus on evidence and risk factors for malignancy (known cancer history, recent weight loss, B symptoms), infection (fever, HIV status, known history of tuberculosis, IV drug use), disc herniation (recent spine trauma, heavy lifting), or hemorrhage (use of anticoagulants). Of note, there is a global shortage in access to radiation oncology services that disproportionately affects low- and middle-income countries.[1,2] Patients with malignant cord compression who do not have access to radiotherapy should be managed surgically as indicated, with aggressive medical management for pain.

Tuberculosis (TB) of the spinal cord, arachnoid layer, and spinal column (Pott disease) are leading drivers of extra-pulmonary tuberculosis worldwide, with disproportionate burden in low- and middle-income countries and in regions with high HIV prevalence.[3] Spinal tuberculosis should be suspected in all cases of cord compression in TB-endemic regions unless an alternative diagnosis is established. The diagnosis of spinal TB can be difficult to establish given the limited sensitivity of available diagnostics, and a broad workup to assess for pulmonary and extrapulmonary TB should be performed. Recommended tests include chest radiographs, sputum culture, sputum acid fast bacilli smear, Xpert nucleic acid amplification tests of sputum and CSF (if lumbar puncture is not contraindicated by clinical and/or radiographic concern for increased ICP or by risk of violating a spinal abscess), standard CSF analysis, and urine lipoarabinomannan (LAM). CSF profile with lymphocytic pleocytosis and marked protein elevation are suggestive of, but not specific for, central nervous system TB. Biopsies should be sent for all patients undergoing surgical spinal decompression. Patients in whom spinal TB is suspected or confirmed should be placed on anti-TB therapy with rifampin, isoniazid, pyrazinamide, and ethambutol for a duration of at least 6 months.

References

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2. Christ SM, Willmann J. Measuring Global Inequity in Radiation Therapy: Resource Deficits in Low- and Middle-Income Countries Without Radiation Therapy Facilities. *Advances in Radiation Oncology*. 2023;8(4).
3. Dunn RN, Ben Husien M. Spinal tuberculosis: review of current management. *The bone & joint journal*. 2018;100-B(4):425–431.