

Title:

Early onset paraplegia and irreversible Spinal Deformity in a Mozambican Child with Pott's Disease and Tuberculous Scrofula

Authors

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Keywords: Pott's disease; tuberculosis; spondylitis; lymphadenopathy; scrofula; Mozambique

Word count: 368

A 54 month-old, male, HIV-negative Mozambican child was admitted at Manhica District Hospital (southern Mozambique) with a 3-month history of night fever, night sweats, non-productive cough, weight loss, neck swelling, backache, progressive back deformity. In addition to these symptoms, limb weakness and inability to walk appeared in the week prior to admission. He presented with fever (39.2°C), crackles on auscultation and chest indrawing. He also presented a visible and palpable deformity in the dorsal region (**figure 1a**), paraplegia (lower limbs weakness, numbness and hyporeflexia) and a left-sided submandibular neck abscess fistulized to skin (**figure 1b**). On the family history, his grandmother had been diagnosed with tuberculosis and was currently under antituberculosis treatment. The initial anteroposterior view of the digital chest x-ray (not shown) exhibited bilateral parenchymal infiltrates, with bronchial displacement (the right bronchus also showed stenosis due to adjacent hilar lymphadenopathies and the left one, subcarinal adenopathies). Well defined paraspinal abnormal signs compatible with spondylitis and cold tuberculous abscess were also observed on the x-ray. These findings persisted in the follow-up x-ray and computed tomography (CT) scan performed after antituberculosis treatment (**figures 1c-d**). This CT scan also showed lytic lesions of the vertebral bodies (T11 and involvement of T10 and T12 and L1), anterior wedging and disks collapse (**figure 1e**). Induced sputum revealed negative results. Neck abscess was sampled with fine needle aspiration. MGIT liquid culture was positive for *Mycobacterium tuberculosis complex*, establishing the diagnosis of disseminated tuberculosis with Pott's disease component. The patient received a 6-month four-drug antituberculosis regimen with isoniazid, rifampicin, ethambutol and pyrazinamide following national guidelines. No surgical intervention was performed. Upon treatment completion the child recovered the ability to walk, although with persistence of the deformity (**figure 1f**) and the scar of the tuberculous scrofula (**figure 1g**). A prompt diagnosis and treatment of spinal tuberculosis may improve the catastrophic consequences of complications as early onset paraplegia. This is of major importance in developing countries, where access to advanced

imaging techniques and surgical treatment is hampered by lack of resources and lower access to health services. Nonetheless, it is critical to stress the need for following WHO-recommended guidelines for active case finding, TB screening and preventive treatment initiation for child contacts of adult TB cases

All authors were involved in patient's clinical care and related diagnostic procedures. RV and ALGB wrote the first version of the manuscript. All authors edited the draft manuscript and approved the final version. Written consent for publication was obtained from the patient.

Figure 1. Pott's disease in a 4-year old Mozambican child with neck scrofula, non-reversible spinal deformity and early onset paraplegia and a-b) physical appearance of the child when admitted, c) AP view of chest x ray, d-e) computed tomography: sagittal (panel d) and axial (panel e) and f-g) physical appearance (images from c through g were captured after antiTB treatment was completed)

