



Spinal Tuberculosis with Paraplegia in Pregnancy

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Tuberculosis of the spine (Pott's disease) causing paraplegia in pregnancy is rare. Moreover, the reluctance to perform X-ray studies in pregnancy may often delay the diagnosis. Pregnant women with paraplegia are at increased risk of urinary tract infection, decubitus ulcers, preterm labor and autonomic hyperreflexia – all potentially life-threatening complications [1]. Vaginal delivery is not contraindicated in pregnancy complicated by Pott's disease; however, problems related to initiation of labor and progression of labor have been reported. We describe a rare case of thoracic spinal tuberculosis presenting as paraplegia during pregnancy. Complete recovery was achieved after cesarean delivery and postpartum anti-tuberculosis therapy.

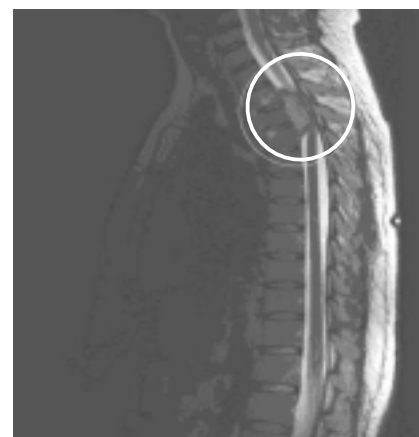
Patient Description

A 32 year old gravida 2, para 1, a new immigrant from Thailand, presented at 36+3 weeks gestation with severe low back pain, numbness and progressive weakness of the lower limbs that began 10 days before her admission. Her medical history was unremarkable and the antenatal course was normal. No other systemic symptoms were reported.

Neurologic examination revealed grade 1 (MRC) motor deficit in the lower limbs with dysesthetic sensory loss below T4 level, impairment scale grade C (ASIA score). The patient was flaccid but sphinc-



[A] T-2 weighted sagittal image showing an extra-axial mass compressing the spinal cord at level T3-T4.



[B] T-2 weighted sagittal image, 6 weeks after anti-tuberculosis treatment, demonstrating significant reduction of the extra-axial spinal mass with minimal compression on the thecal space.

ter control was preserved. Computed tomography scan without contrast media was performed and an anterior paravertebral lytic space-occupying lesion was demonstrated at the level of T3-T4. A normal healthy newborn weighing 3,100 g with Apgar scores of 9/10 was delivered by cesarean section. Postoperative magnetic resonance imaging confirmed localized destruction of vertebrae T4 and T5, with compression of the spinal cord [Figure A]. CT-guided tissue biopsy revealed granulomatous structures compatible with tuberculosis.

The Mantoux test was positive, however the chest radiograph revealed normal lung fields and there were no pulmonary symptoms in retrospect.

Ziehl-Nielsen stain of the tissue biopsy was positive; a tissue specimen sent for

culture to the National Tuberculosis Laboratory grew *Mycobacterium africanum* (a variant of *M. tuberculosis*), susceptible to all common anti-tuberculosis drugs. Despite the clinical acute paraparesis, surgical debridement and decompression were not performed. The patient was managed with dexamethasone 4 mg qid and anti-tuberculosis chemotherapy (rifampicin 600 mg daily, isoniazid 300 mg daily, pyrazinamide 1.25 g daily, ethambutol 800 mg daily, vitamin B6 300 mg daily and H2 blockers 150 mg bid).

Four days after delivery the patient's motor power in the lower limbs improved to grade 3 (MRC). After 6 weeks of therapy, a follow-up MRI revealed significant reduction in the lesion size with minimal cord compression and no permanent deformity [Figure B]. The patient was discharged in good condition, with walking aids and on

anti-tuberculosis chemotherapy for a total treatment duration of 11 months. Repeated MRI after 11 months revealed further improvement. After 12 months, she regained full functional capacity with normal neurologic follow-up.

Comment

The prevalence of tuberculosis is increasing worldwide, particularly in low resource settings and in populations with a high prevalence of human immunodeficiency virus. We report a case of tuberculosis of the thoracic spine, a disease that is rare in developed countries and with an unknown prevalence in the developing world. Extrapulmonary involvement is present in 10–27% of all patients with tuberculosis, and is caused by hematogenous bacterial spread. Despite the increased vascular volume, extrapulmonary tuberculosis is rare among pregnant women. Spinal tuberculosis accounts for about 2% of all cases of tuberculosis [2]. One-third of cases of skeletal tuberculosis involve the spine [3]. Pott's disease (tuberculous spondylitis) might present with a syndrome character-

ized by low back pain, kyphosis, psoas abscess and neurologic symptoms caused by cord compression.

Percival Pott first described the syndrome in 1779 [4]. In our case, the diagnosis of spinal cord compression required rapid delivery in order to enable further intervention for diagnosis. Although the general opinion is that the pregnant paralyzed woman can deliver vaginally, the unfavorable conditions for induction of labor prompted us to end the pregnancy by cesarean section under general anesthesia. We believe that the above relationship was casual and not causal, since the hormonal changes of pregnancy are not known to intervene in the natural history of tuberculosis. Postpartum, MRI and CT-guided fine needle biopsy established the diagnosis of Pott's spine and treatment with anti-tuberculosis drugs was begun, with complete resolution of all neurologic complaints. Based on our experience from this case and others [5], we recommend that physicians be aware that sensation and motor deficits during pregnancy may be caused by a tubercu-

lous spinal mass. Rapid diagnosis and treatment are critical.

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