Spinal Tuberculosis: Role of Surgery Khaled Abdeen



Introduction

Study design : Twenty five patients with spinal tuberculosis [10 cervical and 15 dorsolumbar] presenting with a 2 -6 months history of neurologic deficits were managed surgically . Chemotherapy was instituted 2 weeks before surgery and for 9 months thereafter and follow up was for 12-36 months [mean 15 months].

Objective : to assess the impact of different surgical modalities on neurological outcomes ,bony fusion and spinal stability.

Methods

In the cervical group: 9 patients were treated by an anterior cervical approach for decompression followed by fixation by iliac bone graft and cervical plating ,one patient with C3 tuberculosis was managed by single stage- combined anterior decompression and fusion by iliac bone graft followed by posterior occipitocervical fixation by a Ransford Loop . In the dorsolumbar group: 7 cases were managed by posterior instrumentation [5 cases segmental fixation by transpedicular screws and 2 by Hartshill rectangle with sublaminar wires , 6 by an anterior approach , and another two by circumferential fusion in one session.

Results

All patients had an improved neurologic outcome with solid fusion within 6 months . In the cervical group ,there was an improvement in the Nurick grade from a preoperative mean of 2.5 to 0.3 at the last follow up .In the dorsolumbar group ,the kyphosis angle improved in all patients from 36 to 17 degrees.

Conclusions

Early surgical intervention ,either posterior rigid fixation ,anterior interbody fusion or circumferential fusion plus chemotherapy helps in arresting the disease providing satisfactory stabilization and kyphosis correction . No additional risks related to the use of an implant even when large quantities of caseating material were present.

Learning Objectives

role of surgery in spinal tuberculosis , instrumentation can be done in porescence of infection provided that chemotherapy course given



preopertive C3 tuberculosis



postoperative c3 tuberculosis



x ray C4-5 tuberculosis



MRI c4-5 epidural abscess



postoperative of C4-5 fixation



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TYPES OF TB AFFECTION : Typical :paradiscal two adjacent end plate destruction.

Atypical : - central

- posterior arch
- appendicular
- anterior

In the cervical group: 9 of them treated by anterior cervical approach for decompression followed by fixation by iliac bone graft and cervical plating ,one patient with C3 tuberculosis managed by single stage- combined anterior decompression and fusion by iliac bone graft followed by posterior occipitocervical fixation by Ransford Loop . There was an improvement in the Nurick grade from a preoperative mean of 2.5 to mean 0.3 at the last follow up .

In the dorsolumbar group: 6 cases managed by posterior instrumentation [4 cases segmental fixation by transpedicular screws and 2 cases with Hartshill rectangle with sublaminar wires], anterior approach in 7 cases, and another 2 cases circumferential fusion were done at one operative setting.

All patients showed improved neurological outcome.All of them had solid fusion within average 6 months . In the dorsolumbar group ,angle of kyphosis was improved in all patients , average angle of kyphosis preoperative was 36 degree and at the late follow up ,it was 17 degree and no implant complications .

Surgery for spinal tuberculosis is in progressive neurological deficit , instability , and correction of deformity.Sucessful fusion can be obtained in spinal tuberculosis.