

Surgical Management of Spontaneous Thoracic and Lumbar Spondylodiscitis by Fixation and Debridement

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of the requirements for the MD degree in Neurosurgery.*

By

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Summary

Spinal infection accounts for 2–7% of all cases of musculoskeletal infections. Pathogens can reach the spine either by: hematogenous spread, direct external inoculation, or spread from contiguous tissues harboring these pathogens.

In its early clinical stages, mild spondylodiscitis (early presenting cases, not complicated with neurological deficit, and/or advanced bony destruction, and the patient had not have failed medical treatment) responds favorably to conservative therapy, consisting mainly of antimicrobial chemotherapy and immobilization.

However, as the pathological process becomes more progressive, through spread of the infection, complications occur as appearance and worsening of both skeletal deformity and neurological deficits, as well as possibility of body sepsis (severe form), it becomes highly potential that conservative management would fail, and therefore, surgery – still combined with adjunct suitable antibiotic treatment – becomes inevitably indicated, in order to debride the primary infected tissue, obtain specimens for microbiological testing and/or histopathological examination, decompression of spinal canal, as well as bony fusion to achieve bony stability.

This study addressed the value of surgical debridement and transpedicular stabilization on the clinical and radiological outcome of spontaneous thoracic and lumbar spondylodiscitis in 20 patients indicated for surgical intervention admitted in the Neurosurgery departments, Cairo University and Fayoum University.

All patients had thorough neurological examination, proper investigations; laboratory with special concern to ESR, CRP, postoperative culture and histology. Radiological assessment including diseased spine region Plain X-Rays anteroposterior (AP) and lateral views and CT for bony anatomy, resulting deformity, kyphotic angle, loss of vertebral body height, postoperative vertebral alignment, implants and fusion evaluation. MRI (thoracic, lumbar or thoracolumbar junction) was performed for all patients to assess the neural elements with good visualization of neural canal components, intervertebral discs, to assess the integrity of ligamentous component and pathology spread to the surrounded soft tissues.

The patients were followed up at inpatient and outpatient basis. And were evaluated by x-ray and CT on the first postoperative day, after 3 months and after 6 months unless the patient has a complaint indicating earlier follow-up images.

Early follow-up included post-operative back pain (VAS score), neurological status, radiological evaluation of placement of the fixation system, alignment of the vertebral column. while Later follow-up was divided into Functional outcome

for improvement in back pain, Laboratory and Microbiological outcome involved improving ESR&CRP labs, post-operative culture of the specimen, Radiological outcome for confirmation of incidence of fusion (after 6 months) and Post-operative complications in the form of persistent or recurrent infection, wound infection or implant failure or pseudoarthrosis.

In Conclusion, Surgical management of severe and complicated cases of spondylodiscitis through decompression and fixation with debridement of infected tissue appears to be a safe and effective method of management. It also allows for effective and rapid cure of inflammation, earlier patient mobilization and significantly shorter duration of antibiotic usage.