Spondylodiscitis of thoracolumbar spine: posterior approach alone for both column debridement, decompression and stabilization

Vengust R., Travnik L., Kosak R., Gorensek M.
Department of Spinal Surgery, Orthopedic Clinic - University Medical Centre Ljubljana, Slovenia
Introduction

- Treatment of spondylodiscitis is mainly conservative, but well defined patient population would require surgical treatment. Recently the surgeon’s perspective shifted from Hodgson’s radical debridement with autologous strut- graft interposition, towards employment of instrumentation to both columns in order to achieve rigid fixation and to restore sagittal balance. There is still debate which approach is the treatment of choice.
Methods and materials

• Records of patients treated for pyogenic spondylodiscitis of thoracic and lumbar spine between 2005 and 2010 were revised. 108 patients
• Surgical and patient oriented parameters of 13 patients, treated with single posterior approach and instrumented fusion of both columns
• Results compared with literature
Methods and materials (parameters)

- time of surgery
- blood loss
- time spent in ICU
- number of revision surgeries
- resolution of infection
- mortality
- segmental deformity correction
- rate of fusion
- time of fusion
- selfassessment (Kirkaldy-Willis)
Results

- Mean observation time 18.4 months (2-56).
- Thoracic spine 9, lumbar spine 4
- The average age of patients was 67.2 yrs (41-79)
- 6 patients had neurological deficit prior to surgery

- Mean time of surgery was 211 (150-360) min
- Mean blood loss 1225 (400-4600) ml

- Causative organism  Staphylococcus aureus 6/13 cases
- Infection completely resolved after operative and antibiotic intravenous and per-oral therapy in all 13 patients
Results

- All patients, who had neurological deficit before surgery, have made at least partial neurological recovery postoperatively
- Avrg 6.6 degrees of sagittal correction
- Solid bone fusion in 11 patients out of 13 (84%)
- Avrg. time to fusion was 6.4 months
- The functional outcome excellent in 4 patients (30%), good in 7 patients (53%), fair in 1 patient (7%) and poor in 1 patient (7%).
Results - time of surgery (min)


Safran O, Rand N, Kaplan L, Sagiv S, Floman Y: Sequential or simultaneous, same day anterior decompression and posterior stabilization in the management of the vertebral osteomyelitis of the lumbar spine. Spine 1998; 23: 1885-1890
Results – blood loss (ml)


Safran O, Rand N, Kaplan L, Sagiv S, Floman Y: Sequential or simultaneous, same day anterior decompression and posterior stabilization in the management of the vertebral osteomyelitis of the lumbar spine. Spine 1998; 23: 1885-1890
Results – fusion rate

A Ljubljana

B literature


Complication

Female 79 years old.
Spondylodiscitis of Th12-L1 after vertebroplasty.
Corpectomy of Th12, L1, IC-desis Th11-L2, TP Fixation Th9-L4.
Screw pull-out due to non-fusion.
Conclusion

• First isolate causative microorganism, then apply antibiotic.

• Surgery in minority of cases (indications)

• Necrectomy and instrumented fusion of both columns

• Based on our results, single posterior approach addressing both columns at least as feasible as
  – Two stage or
  – Combined (anterior) approach

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