One-stage posterior surgical treatment for lumbosacral segment tuberculosis combined with kyphosis

Lin Sun, Yueming Song, Limin Liu*, Hao Liu, Quan Gong, Jiancheng Zeng and Qingquan Kong
Department of Orthopedics, West China Hospital, Sichuan University, China

Study design: A retrospective case study.

Objective: To evaluate the clinical outcomes following chemotherapy with one-stage posterior debridement, osteotomy correction, and instrumentation–fusion for the treatment of lumbosacral tuberculosis combined with kyphosis.

Summary of Background Data: Tuberculous spondylitis is one of the main causes of kyphosis in the developing world. The presence of kyphotic in lumbosacral region would have several biomechanical disadvantages. There have been few reports on the treatment of lumbosacral tuberculosis with kyphosis.

Methods: From September 2008 to June 2010, two males and six females with a mean age of 32 years were treated by one-stage posterior surgical treatment. Clinical assessments included low backache, Chinese Oswestry Disability Index (CODI), neurologic deficit, erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP). Radiographic parameters measured before and after surgery included the lumbosacral angle, sagittal alignment, local scoliosis and sagittal offset.

Results: Surgery was successful without aortic or neurological complications. The operation time was 288 minutes, and blood loss was 1269 ml. Patients were followed for an average of 30.0 months. All patients had improvement in constitutional symptoms and low backache after surgery. The average improvement of Frankel Grade was 0.63 at final follow-up. Between preoperative value with final follow-up, significant difference in CODI (P<0.001) and ERS (P=0.013) were noted, but no in CRP (P=0.058). There were significant differences in preoperative and postoperative lumbosacral angle (P<0.001), sagittal alignment (P<0.001), local scoliosis (P=0.001), and sagittal offset (P<0.001). These parameters were well maintained during follow-up. There was no recurrent infection.

Conclusion: One-stage posterior debridement, osteotomy correction, and instrumentation–fusion can be an effective treatment option for lumbosacral tuberculosis with kyphosis.

sunlin_9999@163.com