Clinical: Lumbar Non-Fusion (i.e. MIS discectomy, percutaneous discectomy)

Choice of Indication for Kyphoplasty

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Objectives: To retrospectively analyze the efficacy of kyphoplasty for treatment of spinal tuberculosis, probe the indication of kyphoplasty.

Methods: From April, 2002 to June, 2008, 14 vertebral bodies in 7 patients with spinal tuberculosis were treated by kyphoplasty because of misdiagnosis as osteoporotic vertebral compressional fracture. There were six female and 1 male for average 61.8 years (from 43 to 71). All pathological changes occurred in thoracic vertebra, among which one case is in T9/10, 2 in T10/11, 3 in T11/12 and 1 in T12/L1. All these patients felt pains in thorax and back to different degrees, showing no typical symptoms or physical signs of spinal tuberculosis. Vertebral bodies above or below those with pathological changes showed stenosis to different degrees. MRI showed low signal on T1, high signal on T2 and STIR series.

Results: Through 9-38 months' follow-up on the 14 vertebral bodies, we found that the original symptoms and physical signs had improved to different degrees after the operations. 5 of the 7 patients underwent biopsy during the operation and we diagnosed spinal tuberculosis one week after the operation, so they received regular anti-tuberculosis treatment immediately. Their symptoms and physical signs are effectively controlled. Among the two whose biopsy failed to lead to right diagnosis, one patient suffered from lupus sebaceus at the same time and had taken hormone for a long time. This patient had a high fever with 40 centigrade one month after the operation and then felt pains in thorax and back again. MRI reexamination showed more severe destruction of vertebral body and symptoms of dysesthesia and hypokinesise. We finally diagnosed spinal tuberculosis after laminectomy, trans-vertebral pedicle internal fixation and biopsy were performed. The vein finally recovered after anti-tuberculosis treatment. CT reexamination and reconstruction in one month showed severely destruction in vertebral body, suquestrum, paravertebral abscess and sinus. Currently the patient's condition is effectively controlled and obviously improved. The patients also shows incomplete paralysis. Another patient felt pains in thorax and back again two months after the operation and MRI reexamination showed destruction in vertebral body and paravertebral abscess. Regular anti-tuberculosis treatment effectively controlled the patient's condition.

Conclusions: Differences between symptoms of osteoporotic vertebral compressional fracture and spinal tuberculosis are difficult to distinguish. Those patients who suffer from pathological changes between two adjacent segments and will undergo kyphoplasty should undergo MRI and CT examinations firstly. We should observe carefully changes on interval between adjacent vertera. As for patients with untypical osteoporotic vertebral compressional fracture, we should examine ESR, PPD, C-RP, chest radiograph and tuberculosis antibody to exclude the possibility of spinal tuberculosis.