

Transpedicular Partial Corpectomy Without Anterior Vertebral Reconstruction
in Thoracolumbar Spinal Metastases

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Introduction: The need for anterior reconstruction after radical resection of vertebral body tumors has been emphasized by several authors. The mobility of thoracolumbar spine may substantially increase instability of spine. However, the role of reconstruction may be not necessary in thoracolumbar spine if there is sufficient instrumentation supported. We retrospectively reviewed surgical results of posterolateral transpedicular partial corpectomy without anterior vertebral reconstruction in 30 consecutive patients with symptomatic metastatic spinal cord compression at thoracolumbar region of spine.

Materials and Methods : From November 2001 to December 2012, 30 patients with symptomatic metastatic spinal cord compression at thoracolumbar spine (T10-L1) underwent palliative surgery using a transpedicular partial corpectomy without anterior vertebral reconstruction. The indication for surgery was neurologic progression due to spinal cord compression.

Results: Patients ranged in age from 33 to 83 years (mean, 61.6 years). Neurologic improvement by at least one Frankel grade was noted in 23 of 30 cases (76.7%). Overall, 63.3% of patients (19 of 30) could walk after surgery. There was no intraoperative mortality. Median survival time was 5.67 months (range, 0.47 to 34.8 months). There was no implant failure.

Discussion: Major anterior thoracolumbar vertebral reconstruction is an effective treatment for local tumor control. The stability of a diseased segment after tumor resection can certainly be enhanced by a strong posterior instrumentation in combination with the anterior reconstruction (allograft or metal spacer) of the anterior column. However, the major goal of the surgery is to put the patient in a condition to be as soon as possible independently mobile. Pure posterior pedicle screw instrumentation with or without cemented augmentation of screw purchase can diminish surgical time and avoid possible intensive care unit care for severely ill and rather cachectic patients. The complication rate is also acceptable.

Conclusions: The results of this study suggest that the stability of implants can be maintained up to 34.8 months without anterior vertebral reconstruction in thoracolumbar spine.