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Endoscope assisted total spondylectomy for malignant or aggressive bone tumors of the spine

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Introduction: Primary malignant and aggressive bone tumors of the spine are very rare. Early diagnosis and complete removal of the tumor are essential for prevention of local recurrence and metastasis.
Purposes of the study are to show the local recurrence and final results of total spondylectomy for malignant or aggressive spinal tumors with endoscope assisted versus conventional anterior and/or posterior approaches
Materials and Methods: From 1996 to 2012, total 29 patients with malignant or aggressive bone tumors of the spine had been surgically treated and followed for minimum a year to 15 years. Diagnoses were 10 giant cell tumors, 5 chordomas, 4 malignant lymphomas, 2 osteosarcomas, 2 chondrosarcomas, 2 MPNST, 1 Ewing€™s sarcoma, and 1 hemangioendothelioma and 2 metastatic cancers(1 breast, 1 cervix). All patients had been treated with total spondylectomy with anterior and/or posterior approaches. Six of them had been treated with the endoscope(2 thoracoscope, 4 laparoscope) assisted total spondylectomy. Anterior dissection was done with thoracoscope for dorsal spine, and laparoscope for lumbar and sacral spines. After surgical removal of the vertebral body, metallic cage with bone graft, strut allograft or autograft were placed, and anterior and posterior stabilization procedures were performed.
Results; Among 17 patients of primary malignant tumor, 7 were died of disease, 4 alive with disease and 6 continuous disease free. Among 10 giant cell tumors, 3 local recurrences developed. There were 1 (17%) local recurrences from 6 patients of endoscope assisted total spondylectomy and 9 (39%) recurrences from 23 patients of conventional spondylectomy.
Conclusion: Total spondylectomy with anterior and/or posterior approaches was essential to reduce local recurrence and long term clinical results for malignant or aggressive spinal tumors. Endoscope assisted surgery has been reduced the total spondylectomy related morbidity and complications.

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