

Vertebral body replacement after corpectomy in cases of cervical spinal metastasis using the Ulrich vertebral body replacement, Anterior Distraction Device (ADD)

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Introduction: The surgical aim of neurosurgical treatment of cervical spinal metastasis is to keep or to improve the life quality of patients suffering from a malignant primary disease. This means reduction of the pain resistant to conservative treatment and improvement of the paraplegic neurological symptoms. Five patients that were treated with the Ulrich distraction-vertebral body replacement are discussed. The aim of surgery was the reconstitution of spinal stability.

Patients and methods: With the aim of conservation or reconstitution of the stability of the cervical spine 5 patients with cervical spinal metastasis (2 patients with hypernephroma, 1 patient with mamma carcinoma, 1 patient with lymphoma and one patient with cancerogenic lymph nodes) were operated between 1998 and 2000, performing corpectomy and inserting ADD vertebral body replacements.

Results: In all cases the introduction of the ADD into the bone defect was without problems. The possibility to adjust the implant in situ to the defect and the anchorage of the implant to the end plates by a simple distraction proved to be very advantageous.

Intra-operatively one patient suffered from an injury of the arteria vertebralis as a result of the tumour size. The injury was of no further consequences. Another patient was treated for six weeks postoperatively with a Philadelphia cervical collar in response to implant position too close to the vertebral wall. The pain symptoms of all patients was improved significantly during the observation time. In three of five patients the developing sensory and motion deficits were improved (assessment of life quality and mobility as per Karnofsky and Frankel-Index). None of the patients suffered from paraplegia during the time of observation.

Discussion: The aim of surgery to improve life quality by reducing pain and preserving mobility can be achieved with the described method. In comparison to other techniques such as inserting bone graft from the iliac chrest or inserting a non-distractable titanium cage, the described method makes possible a surgically more easy insertion of the vertebral body replacement in situ and, if necessary, an additional distraction.

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