



Title: Motion-preserving cervical joint system implantation for treatment of cervical myelopathy: a first case report

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Abstract

BACKGROUND: At present, fusion surgery must be performed to reconstruct the stability of the cervical spine after cervical vertebral body resection and decompression. However, fusion sacrifices the mobility of the cervical spine in the surgical segment, which significantly affects the quality of life of patients after surgery, and also brings local stress. A series of long-term problems such as metastasis and degeneration of adjacent segments.

OBJECTIVE: To explore the short-term clinical effect of 3D printing motion-preserving cervical joint system implantation in the treatment of a patient with cervical spondylotic myelopathy.

METHODS: In view of the loss of motor function of cervical spine segments and the degeneration of adjacent segments after traditional ACCF, a self-developed 3D printing motion-preserving cervical joint system was used to treat 1 patient with cervical spondylotic myelopathy in December 2020 , Using JOA scoring, imaging examination and other methods to evaluate the efficacy of surgery.

RESULTS AND CONCLUSION: The neurological function of the patient recovered well one week after the operation, and the JOA score rose to 14 points. The physiological curvature and intervertebral height of the patient's cervical spine recovered well after the operation. The prosthesis was accurately implanted in the decompression site according to the preoperative plan. The results suggest that the prosthesis reconstructs part of the cervical spine motor function.

Key words: motion-preserving cervical joint system; cervical spondylotic myelopathy; ACCF