The Early Follow-up after Treatment of Degenerative Disc Disease with the Prestige LP Cervical Disc Prosthesis: Single-level and Bi-level

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Study design: Our clinical studies were designed to determine whether new functional cervical disc prosthesis can provide relief from objective neurologic symptoms and signs, improve patient's ability of daily life, and maintain cervical motion.

Objective: This study was to evaluate the clinical outcomes of single- and bi-level Prestige LP disc replacement for the cervical disc degenerative diseases in Chinese population.

Methods: From January, 2008 to March, 2010, 60 patients between ages of 31 and 64, with radiculopathy and/or myelopathy which caused by cervical disc herniation, unresponsive to at least 6 weeks of conservative treatment, or experiencing progressive neurologic symptoms were accepted the Prestige LP artificial disc replacement after a standard anterior cervical discectomy and decompression. According to the follow-up schedule, all patients were evaluated by JOA (17 points) and Odom's Scale. Radiological examination including plain radiographs was performed to judge range of motion at the implanted level.

Results: Operations were successfully performed in 60 patients (35 males and 25 females) which average age was 47.2±8.5 (Range from 31 to 64). All patients had obeyed the follow-up schedule after the operation. The JOA score was improved significantly in both group (P< 0.05). Clinical success for both group exceeded the study acceptances criteria of 85%. At 1-year follow-up, the flexion-extension range of motion per level average 10.3± 2.5 degree in the single-level and 6.6± 3.9 degrees in the bi-level. Radiological evaluation showed satisfied position in most implants, with only 3 implants moving forward less than 3mm after the operation in the single-level group, and were no more movement in the further follow-up observations. No prosthesis has been explanted. Delayed leakage of cerebrospinal fluid took place in one patient after implantation in single-level group. Therefore, redraining was performed surgically and the patient recovered fully well.

Conclusion: PRESTIGE LP artificial disc replacement is a safe and efficient treatment for the cervical disc degeneration, which can maintain the normal cervical alignment and segmental range of motion after decompression. Early clinical outcome is satisfied with patients' relieved symptom, improved cervical function and better life quality. However, in view of the small study population and short-term follow-up, continued study is mandatory.

Keywords: PRESTIGE LP Cervical Disc, cervical arthroplasty, artificial intervertebral disc, cervical spine, degenerative disc disease.