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Occipitocervical Fusion with Transpedicular Fixtion System
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Objective: To evaluate the long-term clinical results after occipitocervical fusion with transpedicular fixation system in a large and diverse patient population, the authors prospectively studied a consecutive group of 43 patients.

Methods: From 2004 to 2008, occipitocervical fusion was performed in 43 patients (32 male, 11 female, mean age 46.5 years) with transpedicular internal fixation system (Sofamor Danek Company). Out of them, there were 24 with upper cervical tumor, 10 with cervical congenital malformation and 9 with dens axis fracture association with atlantoaxial dislocation. The clinical outcomes were investigated by clinical observations, radiologic studies and statistical analysis.

Results: All the patients were followed up for 6 to 60 months with an average of 26 months. The result of X-ray showed that bony fusion was successful in 34 patients at 3 months and 9 patients at 6 months of follow-ups. There was no deterioration of spinal cord injury. The JOA scores of neurofunction increased from 5-17 points (mean 12.6 points) to 8-17 points (mean 15.8 points), with the improvement of 72%.

Conclusion: Transpedicular internal fixation system has multiaxial screw of three-column fixation and plastic rods, which offer strong fixation and good fusion. It can also benefit the maintenance of cervical curve. It is an effective and reliable method for reconstruction of upper cervical stability.