

ABSTRACT

HIGH CERVICAL MYELOPATHY DUE TO BONY CRANIOVERTEBRAL JUNCTION ANOMALIES (ATLANTOAXIAL DISLOCATION) IN PEDIATRIC POPULATION – CLINICAL SCORING SYSTEM

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Bony craniovertebral junction anomalies are rare anomalies to cause high cervical myelopathy. Atlantoaxial dislocation (congenital) is one of the commonest bony anomaly in children presenting with high cervical compression. It is relatively common in India with an incidence of 5-8 / 1000. When the distance of atlas (anterior arch) is more than 3mm (4 mm children) from odontoid process, it is called as Atlantoaxial dislocation (AAD) resulting into bony compression of high cervical cord. The patients may present with quadriparesis, sensory impairment in all limbs along with lower cranial nerve involvement. Because of lower medullary involvement the respiratory compromises are also frequent, posing a threat to life. Complex anatomy of foramen magnum, plethora of clinical conditions and atypical surgical approaches are responsible for poor outcome in these children. A new clinical scoring system for myelopathy was evolved in order to have an objective and precise grading of these cases preoperatively and postoperatively. The need of precise scoring system was felt to have reproducibility and easy applicability in children of craniovertebral junction anomalies in order to fetch even minimal improvement or deterioration following complex surgery. Motor functions, gait, sensory, sphincteric, respiratory function & spasticity were the parameters included in study of scoring system. This study was done in 177 operated cases of AAD (67 patients, below 14 years of age included for statistical analysis). Their detail clinical & radiological evaluation was done preoperatively & postoperatively. The Kumar & Kalra high cervical myelopathy grading system was thus, introduced in literature. System was easy to use, interpret and was more sensitive to the changes in neurological status. It helped neurosurgeons and neurologists globally to evaluate and prognosticate the cases of Atlantoaxial dislocation.

Key words : Pediatric; atlantoaxial dislocation; CV Junction anomalies, high cervical myelopathy.