A novel classification and algorithmic-based management of craniovertebral junction osteoarthrosis

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ABSTRACT

Introduction: The objective of this study is to propose a novel classification and algorithmic-based management plan for craniovertebral junction osteoarthrosis (CVJOA). **Materials and Methods:** A retrospective study was done based on prospective database of radiological studies and clinical history. Twenty symptomatic patients (12 females and 8 males) with a mean age of 54.8 years were identified with CVJOA. These patients underwent either nonsurgical treatment only or surgical intervention and had follow-up of at least 14 months. Classification of CVJOA is based on coronal deformity, rigidity, stability, and two modifiers. The main surgical procedures done in the surgical arm of these patients included C1–C2 fusion, C1–C2 facet distraction and fusion, and unilateral subaxial facet distraction, and posterior column osteotomy. **Results:** All the twenty patients included in this study complained of either sub-occipital or upper neck pain and had radiological evidence of CVJOA. Seven patients improved with nonsurgical management and 13 underwent surgical intervention. Surgical recommendations for each type of CVJOA have been described with case examples, and algorithm for the management of CVJOA has been developed based on this study. Interobserver agreement on CVJOA classification was measured using kappa value statistics which showed moderate strength of agreement (0.467). **Conclusion:** This study describes a novel classification and management of CVJOA based on algorithm and current surgical recommendations for each type of CVJOA.

Keywords: C1-C2 fusion, cervical pain, craniovertebral junction, facet distraction, osteoarthrosis

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