

Management of Type II Odontoid Fractures: Experience from Latin American Spine Centers.

Asdrubal Falavigna, Orlando Righesso, Pedro Guarise da Silva, Carlos Rocca Siri, Jefferson W. Daniel, José Carlos Esteves Veiga, Gustavo Borges Laurindo de Azevedo, Luis Eduardo Carelli, Ratko Yurac, Felix Adolfo Sanchez Chavez, Ericson Sfreddo, Andre Cecchini, Marcelo Martins do Reis, Jose Maria Jiménez Avila y K. Daniel Riew.

Abstract

OBJECTIVE:

To analyze characteristics of type II odontoid fracture (TII-OF), including clinical and radiographic factors, that influence surgical planning in 8 Latin American centers.

METHODS:

Retrospective chart review was performed of 88 patients with TII-OF between 2004 and 2015 from 8 Latin American centers. Parameters studied included 1) demographic data and causes of TII-OF, 2) clinical and neurologic presentation, 3) characteristics of fracture (degree of odontoid displacement, displacement of odontoid relative to C2 body, anatomy of fracture line, distance between fragments, presence of comminution, contact area between odontoid and C2 body), 4) type of treatment, and 5) clinical and radiographic outcome. Bone fusion was assessed using computed tomography.

RESULTS:

Mean patient age was 45.33 years \pm 23.54; 78.4% of patients were male. Surgery was the primary treatment in 65 patients (73.8%), with an anterior approach in 64.6%. Surgery was usually preferred in patients with posterior or horizontal oblique fracture lines, local pain, and a smaller bone contact surface between the odontoid and the body of C2. A posterior approach was chosen when distance between the fractured bone fragments was >2 mm or after failed conservative or anterior odontoid screw treatment in a symptomatic patient.

CONCLUSION:

The treatment of choice for TII-OF in 8 Latin American trauma centers was surgery through an anterior approach using screw fixation. Posterior segmental C1-C2 fixation was indicated when distance between bone fragments was >2 mm and in symptomatic patients with nonunion.