

Odontoid process fracture: conservative treatment in Type II. Two case reports.

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INTRODUCTION:

Cervical spine fractures represent 60% of spinal injuries with 9-20% involving the axis (C2).^[1] Odontoid process fracture is the most common C2 fracture.^[1] Devastating neurological injuries occur in 2-27% of cervical fractures.^[1,2] Following Anderson and D'Alonzo classification (1974), Type II is the fracture through waist of odontoid process and its management remains controversial.^[2]

REPORT:

A 20-year-old male patient A presented at our service, reporting a motorbike vs cow accident and sustaining neck pain. No neurological deficit was observed.

Another 42-year-old male patient B came with neck pain post motorbike skidded accident, similarly without neurological deficit. Both computed tomography (CT) cervical scans revealed horizontal fracture at base of odontoid process with 2-2.2 mm gaps and asymmetrical right and left atlantodental distances. Anterior atlantodental distances are preserved at 1.3 to 2mm respectively. Both patients were put on Aspen cervical collar for total 3 months with axial loading.

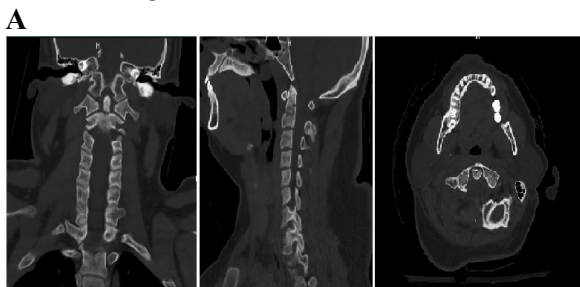


Figure 1: Cervical CT scan (coronal, sagittal and axial view)

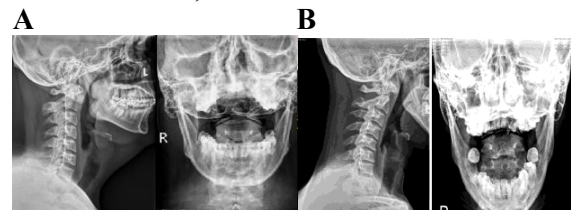


Figure 2: Cervical radiographs 3-month follow up (lateral and odontoid view)

6 weeks follow up cervical radiographs revealed no further displacement of fractured odontoid process.

Despite loss of overall C1-C2 stability approximately 37% in odontoid process fracture, surrounding atlantoaxial ligaments and soft tissue still provide remaining stability.^[1] In Type II odontoid fracture without posterior displacement or displacement less than 4-6mm, non-operative treatment is preferred.^[1] Magnetic resonance imaging could aid in confirming any atlantoaxial ligaments disruption and overall atlantoaxial stability.^[1]

CONCLUSION:

Conservative treatment is preferred in minimally displaced Type II odontoid fracture. Assessing status of soft tissue structures is helpful in determining overall atlantoaxial stability for good bone union.

REFERENCES:

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2. Julien TD, Frankel B, Traynelis VC, Ryken TC (2000) Evidence-based analysis of odontoid fracture management. *Neurosurgical Focus* **8** (6), e1