Anterior cervical plating for an Axis Tear Drop Fracture - A case report

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Abstract

Statement of the Problem: Tear drop fractures are rare injuries occurring in upper and lower cervical region. It occurs most often at C5 vertebrae followed by C6 and C4. In upper cervical region, Axis vertebrae fracture is the most commonly reported, and the incidence come to nearly 3% of cervical spine injuries. Like any other tear drop fractures, C2 tear drop fracture is also caused by flexion and hyperextension injuries. Management of tear drop fractures are based on the stability of the cervical segment. The spectrum of management varies from conservative to surgical, including immobilisation, traction, corpectomy with fusion, corpectomy and fusion with prolonged skeletal traction or fixation via combined anterior and posterior approach, anterior decompression with plate fixation. The purpose of this study is to look into a case of unstable flexion tear drop fracture without neurological deficit.

Case Report: We present a case of traumatic unstable C2 flexion tear drop fracture in a young adult without neurological deficit. we have treated the patient successfully with anterior cervical plating and tricortical bone grafting after removal of the tear drop fragment and discectomy through right sided high anterior retropharyngeal approach. The patient was mobilised on the next day after surgery and neck mobilisation started after 3 weeks. The patient was followed up for 6 years and was found to have no sequelae related to injury.

Conclusion & Significance: Unstable tear drop fractures need to be fixed irrespective of the presence or absence of neurological deficit. Open reduction and internal fixation with low profile plate and tricortical bone graft shaped to fit the defect and disc space through high anterior retropharyngeal approach is a promising treatment.



Figure 1: CT cervical spine showing tear drop fracture fragment



Figure 2: Dynamic (flexion) X-ray showing stable upper cervical spine segment with plate and screws in-situ

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Biography

Dr Nijith O Govindan, Consultant Orthopaedic Surgeon, is located at Kochi, Kerala, India. He is working in orthopaedics since past 9 years. Though primarily a Joint Replacement surgeon, he is passionate about spine surgery. He is also a Reviewer for many reputed journals in orthopaedics.

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