C6-C7 Spondyloptosis without Neurological Deficit-A Rare Entity

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Abstract

Traumatic spondyloptosis of the sub-axial cervical spine is a relatively uncommon entity. Patients usually present with a complete, or rarely a partial neurological deficit. The absence of neurological deficit is very unusual and there are only few such cases reported.

Our patient (a 45 year old female) presented with complaint of fall from height with neck pain and marked restriction of neck movement in all directions. She had normal power in both upper and lower limbs. No sensory deficit noted. X-Ray and CT scan of the neck revealed complete fracture dislocation of C6/C7 with fracture of posterior elements of C6 and C7 with rotation. Skeletal traction with 35 lb weight was applied and reduction achieved. Subsequently anterior fixation (C5, C6, C7, D1) was achieved with screws and plate and interbody fusion (C6-C7) with iliac crest graft. On follow up after one year patient has no new complains.

We believe that by achieving preoperative reduction followed by anterior stabilization, we converted an unstable fracture into a stable one.

Keywords: Spondyloptosis; Cervical; Fixation

Introduction

Traumatic spondyloptosis of the sub-axial cervical spine is a relatively uncommon entity. Patients usually present with a complete, or rarely a partial neurological deficit [1]. The absence of neurological deficit is very unusual and there are only few such cases reported [1-4].

Case Report

Our patient (a 45 year old female) presented with complaint of fall from height with neck pain and marked restriction of neck movement in all directions. She had normal power in both upper and lower limbs. No sensory deficit noted. X-Ray and CT scan of the neck revealed complete fracture dislocation of C6/C7 with fracture of posterior elements of C6 and C7 with rotation (Figure 1A-C). Skeletal traction with 35 lb weight was applied and reduction achieved. Subsequently anterior fixation (C5, C6, C7, D1) was achieved with screws and plate and interbody fusion (C6-C7) with iliac crest graft (Figure 3). On follow up after one year patient has no new complains.

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Discussion

Traumatic hyperextension can lead to rupture of anterior longitudinal ligament as well as intervertebral disc and annulus. Further rupture of posterior longitudinal ligament and pedicle fracture can occur. As the superior articular surfaces of the facets slope medially, significant axial loading tends to spread the broken posterior elements apart resulting in burst fracture. There by hyperextension can account for the fracture-dislocation and fractured posterior elements, and the axial load resulted in widening of spinal canal thereby avoiding spinal cord damage [2].

Table 1: Case reports of cervical dislocation with no deficits.

<table>
<thead>
<tr>
<th>No.</th>
<th>Author</th>
<th>Diagnosis</th>
<th>Neurological Examination</th>
<th>Treatment</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Srivastava et al. [1]</td>
<td>C3-C4 complete fracture dislocation</td>
<td>No motor and sensory deficit</td>
<td>Traction. Anterior C3-C4 fixation with screw and plate and iliac crest interbody fusion.</td>
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</table>
mechanism explains our patient having no deficit despite complete dislocation. Similar case reports from literature have been reviewed (Table 1). We believe that by achieving preoperative reduction followed by anterior stabilization, we converted an unstable fracture into a stable one.

References