



## C6-C7 Spondyloptosis without Neurological Deficit-A Rare Entity

Ashwarya Aditya Mehra<sup>1</sup>, Uday Singh Raswan<sup>1\*</sup> and Rahul Mannan<sup>2</sup>

<sup>1</sup>Department of Neurosurgery, Amandeep Hospital, India

<sup>2</sup>Department of Pathology, Amandeep Hospital, India

### 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 (Figure 2). 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.

### 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]. This

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

No.	Author	Diagnosis	Neurological Examination	Treatment
1	Srivastava et al. [1]	C3-C4 complete fracture dislocation	No motor and sensory deficit	Traction. Anterior C3-C4 fixation with screw and plate and iliac crest interbody fusion.
2	Bhatia et al. [2]	C6-C7 complete fracture dislocation	No motor and sensory deficit	Traction. Post. fusion with wire and loops + excision of anterior c7 body with iliac crest graft with wire fixation.
3	Pitman et al. [3]	C6-C7 complete fracture dislocation	Left arm weakness	Traction. Anterior interbody iliac crest graft with brace.
4	Baker and Grubb [4]	C6-C7 complete dislocation.	No neural deficit	Traction, operative not known.

### OPEN ACCESS

#### \*Correspondence:

Uday Singh Raswan, Department of Neurosurgery, Sher-I-Kashmir Institute of Medical Sciences, Soura, Srinagar, Jammu and Kashmir, India, E-mail: usrx95@yahoo.co.in

Received Date: 22 Nov 2018

Accepted Date: 11 Dec 2018

Published Date: 14 Dec 2018

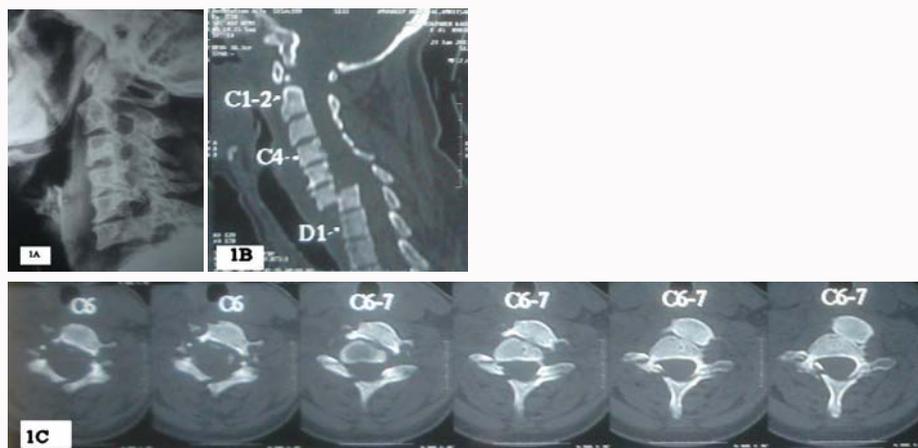
#### Citation:

Raswan US. C6-C7 Spondyloptosis without Neurological Deficit-A Rare Entity. *Ann Clin Case Rep.* 2018; 3: 1566.

ISSN: 2474-1655

Copyright © 2018 Uday Singh

Raswan. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.



**Figure 1:** Complete anterior dislocation of C6 over C7. Cervical spine with fracture of posterior elements of C6 and C7 with mild rotation.



**Figure 2:** Reduction of dislocation following traction.



**Figure 3:** Anterior C5, C6, C7, D1 fixation with iliac crest interbody graft (C6-C7).

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**

1. Srivastava SK, Agarwal KM, Sharma AK, Agarwal MD, Bhosale SK, Renganathan SR. C3-C4 spondyloptosis without neurological deficit- a case report. *Spine J.* 2010;10(7):e16-20.
2. Bhatia S, Sharma BS, Mathuriya SN, Pathak A, Khosla VK. Complete dislocation with burst fracture of the lower cervical spine. *Case report. Paraplegia.* 1993;31(8):542-4.
3. Pitman MI, Pitman CA, Greenberg IM. Complete dislocation of the cervical spine without neurological deficit. *A case report. J Bone Joint Surg Am.* 1977;59(1):134-5.
4. Baker RP, Grubb RL. Complete fracture-dislocation of cervical spine without permanent neurological sequelae. *Case report. J Neurosurg.* 1983;58(5):760-2.