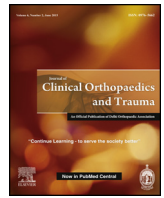




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Original article

## Management of post-traumatic neglected cervical facet dislocation

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### ABSTRACT

**Background:** Post-traumatic unilateral or bilateral sub-axial cervical spine dislocations with locked facets are quite common. In developing countries like India, many patients with cervical injuries report late due to many reasons like rural backgrounds, lack of infrastructures and skilled surgeons, unawareness, poor socioeconomic status, lack of transportation to the specialized center with proper facility, etc. Early management is essential to maximize better neurological outcome. Delayed or neglected presentation makes treatment more challenging. Very few literatures are currently available regarding management of neglected cervical facet dislocation but no one offers clear cut management. Purpose of our study is to evaluate treatment outcome of 15 patients with post-traumatic neglected cervical facet dislocation.

Here we have reviewed 15 patients with post-traumatic neglected presentation of cervical facet dislocations and evaluated their treatment outcome.

**Materials and methods:** This is a retrospective type of study done in spine care unit of VMMC and Safdarjung Hospital, New Delhi from July 2013 to June 2016. Record of 15 patients with neglected cervical dislocation who were undergone anterior cervical discectomy and fusion along with posterior lateral mass screw fixation depending upon close reduction and integrity of disco-ligamentous complex.

**Results:** 15 patients were included in this study. 4 patients underwent only anterior cervical discectomy and fusion (ACDF) after complete close reduction with intact disco-ligamentous complex. Remaining 11 patients who failed to achieve complete reduction or had posterior disco-ligamentous injuries underwent posterior partial facetectomy and lateral mass screw fixation with anterior discectomy and fusion concomitantly. Mean follow up period was 14 months. All patients achieved pain relief and sufficient neck movements. 1 patient with only nerve root injuries recovered completely. 6 out of 11 patients with incomplete spinal cord injuries, improved by one Frankel grade and remaining 5 patients by two grades. 3 patients with complete quadriplegia showed no clinical and neurological improvement.

**Conclusion:** Proper decompression, reduction and fixation should be done in neglected cervical dislocation as it provides mechanical stability and alignment, facilitates rehabilitation, prevent kyphotic deformity as well as offers a fair chance of neurological recovery.

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### 1. Introduction

Post-traumatic cervical injury is a very devastating event on personnel, family level as well as financial burden to the society because of morbidity, prolonged treatment, rehabilitation and life-long dependence.<sup>1</sup> Most common etiologies resulting in cervical

spine injuries included are fall from height and road traffic accidents. Unilateral or bilateral sub-axial cervical spine dislocations with locked facets are quite common. In developing countries like India, many patients with cervical injuries report late due to many reasons like rural backgrounds, lack of infrastructures and skilled surgeons, unawareness, poor socioeconomic status, lack of transportation to the specialized center with proper facility, etc. Early management is essential to maximize better neurological outcome. Delayed presentation makes treatment more challenging.<sup>2</sup> Very few literatures are currently available regarding management of neglected cervical facet dislocation but no one offers clear cut management.<sup>2–6</sup> Management includes conservative treatment and surgery. Recently incidence of operative

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reduction, decompression and fixation has increased as it provides better mechanical stability and alignment, facilitates rehabilitation and increases chances of neurological recovery.

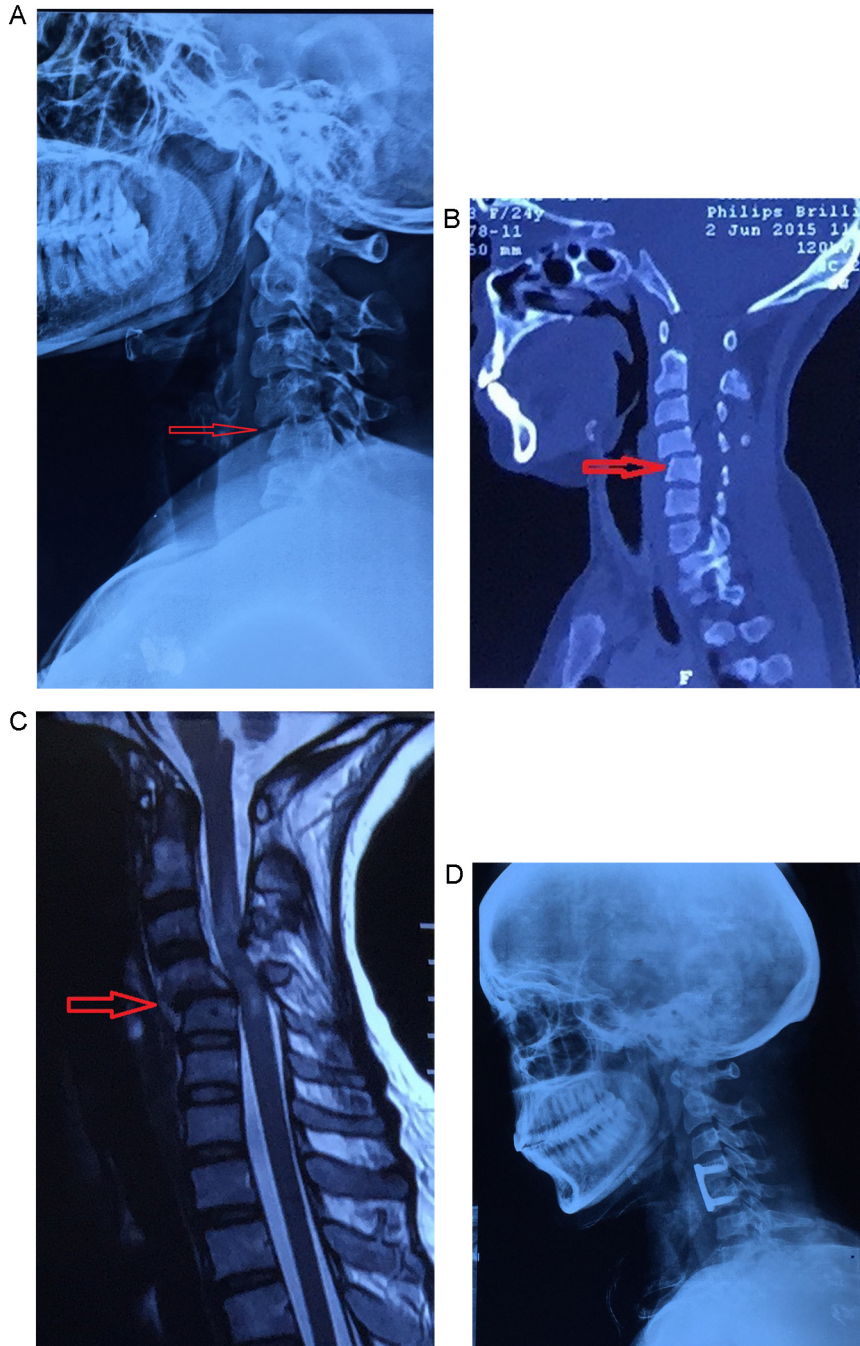
Here we have reviewed 15 patients with post-traumatic neglected presentation of cervical facet dislocations and evaluated their treatment outcome.

## 2. Materials and methods

This is a retrospective type of study conducted in Central Institute of Orthopaedics, VMMC and Safdarjung Hospital, a tertiary care center in northern India. In this study, we have evaluated treatment outcome of patients presented with neglected

cervical facet dislocation. Records of 11 men and 4 women aged 18–50 (mean = 33) years who presented with unilateral ( $n = 5$ ) or bilateral ( $n = 10$ ) cervical facet dislocation with a delay of 31–193 days (mean = 63 days) were reviewed. The etiologies leading to cervical injury were falls from height ( $n = 12$ ), road traffic accidents ( $n = 2$ ) and fall of heavy object over head ( $n = 1$ ). The most common level of dislocation was C5–C6 ( $n = 7$ ), followed by C6–C7 ( $n = 3$ ), C3–C4 ( $n = 2$ ), C4–C5 ( $n = 2$ ) and C7–T1 ( $n = 1$ ).

Proper general examination and neurological examination including muscle tone, sensory, motor, deep tendon reflexes, sacral sensation, and bulbocavernous reflexes were done. The neurological status was graded according to the Frankel classification. 3 patients had complete quadriplegia (grade A), 11 had



**Fig. 1.** (A) Lateral view of cervical spine showing anterolisthesis of C4 vertebra over C5 with facet dislocation. (B) Sagittal section NCCT of cervical spine showing anterolisthesis of C4 vertebra over C5 vertebra without fracture of vertebral body. (C) T2 image MRI of cervical spine showing compression of spinal cord by extruded disc at C4–C5 level with myelopathic changes of spinal cord. (D) Post-operative lateral view of cervical spine showing cervical plate and screw with intervertebral tri-cortical iliac crest graft with good alignment and reduction.

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