Cervical unilateral locked facet treatment

- Management of Subaxial Cervical Spine Injury with Unilateral Locked Facet: An Institutional Experience
- Clinical and radiographic outcomes of posterior cervical arthrodesis and stabilization via lateral mass screwing and rod fixation: a retrospective study at a tertiary hospital in Addis Ababa, Ethiopia
- Skull traction reattachment combined with ACDF in the treatment of C2-C3 transverse dislocation with unilateral cervical facet locked: A case report
- Evaluation for Vertebral Artery Injury with Cervical Dislocated Fracture and Optimal Treatment before Reduction
- Socio-demographic factors, clinico-radiological profile of patients with traumatic cervical spine injury in South India, and its association with short-term clinical outcome
- Subaxial cervical articular process subluxation and dislocation: Cervical locked facet injuries in dogs
- Classification of unilateral cervical locked facet with or without lateral mass-facet fractures and a retrospective observational study of 55 cases
- Treatment of locked lower cervical fracture and dislocation with anterior cervical fusion and internal fixation combined with the release of interlocking facet through the Luschka joint and anterior lamina space

The treatment of the cervical unilateral locked facet is still controversial. The compliance of patients to cervical immobilization in nonoperative treatment plays a very important role in the development of late complications. Instability is an important factor in planning surgical management and needs to be identified as early as possible in order to avoid possible neurological deterioration and pain.

Reduction

In the series of Rao et al. the cervical locked facet was released through the Luschka joint and anterior lamina space and the anterior cervical fusion and internal fixation was used to treat the fracture and dislocation of the lower cervical spine. The recovery of spinal cord function was judged by the functional classification of ASIA; the visual analog scale (VAS) score, neck disability index (NDI) score, and modified Japanese Orthopaedic Association (m-JOA) score were used to evaluate the clinical efficacy; the Cobb angle of fusion segment was observed by X-ray film. The intervertebral bone graft fusion was evaluated 6 months after the operation.

The average operation time was 78.30 minutes, the average intraoperative blood loss was 167.30 mL, and the average postoperative drainage volume was 58.12 mL. No blood transfusion was given during or after the operation. During the operation, there was no accidental injury of large blood vessels, esophagus, and trachea; no laryngeal edema, dysphagia, hoarseness, and cerebrospinal fluid leakage occurred after the operation; no spinal cord injury or nerve root injury aggravated; the incision healed by first intention, and no infection occurred. All 12 cases were followed up 15-20 months, with an average of 16.5 months. The symptoms and function of the nerve injury were significantly improved when compared with that before the operation. Re-examination of the cervical spine X-ray film at 6 months after the operation showed that the Cage or bone graft was not displaced or broken, the screw was not loosened or detached, and the intervertebral graft fusion rate was up to 100%. At the

last follow-up, the ASIA grade, Cobb angle of fusion segment, neck pain VAS score, m-JOA score, and NDI score were significantly improved when compared with the preoperative one (P<0.05).

The effectiveness of treatment of locked lower cervical fracture and dislocation with anterior cervical fusion and internal fixation combined with the release of the interlocking facet through the Luschka joint and anterior lamina space is clear, which not only can make the injured segment get a satisfactory reduction, immediate stability and reconstruction, and full decompression, but also can effectively prevent the secondary injury of spinal cord ¹⁾.

From March 2015 to September 2018, 62 patients with unilateral SCFD were studied. The cases were divided into 2 groups based on different surgery strategies. Thirty-one patients were enrolled in the minimally invasive surgery (MIS) group, and 31 patients were enrolled in the open surgery group. The duration of the prone position operation, blood loss, and total hospitalization costs were recorded. The clinical effects were evaluated using visual analog scale scores, the Oswestry Disability Index, and Japanese Orthopedic Association scores at each follow-up. In addition, the segmental Cobb angle and intervertebral height were recorded and compared.

The amount of intraoperative blood loss, prone position operation duration, and total hospital costs in the MIS group were significantly lower than in the open surgery group. The visual analog scale, Oswestry Disability Index, and Japanese Orthopedic Association scores of the 2 groups significantly improved after the operation. A satisfactory fusion rate was obtained in both groups, and the segmental Cobb angle and intervertebral height scores in both groups improved significantly.

The minimally invasive reduction had equal clinical efficacy to posterior open surgery. However, MIS was less invasive and had lower costs. Therefore, it is a potential option in the treatment of SCFD $^{2)}$.

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