

# Atlantooccipital dislocation case reports

Hypoglossal nerve palsy in a case of spontaneous [atlantooccipital dislocation](#) - a rare clinical finding in a rare clinical entity. And its complete recovery following corrective surgery <sup>1)</sup>.

## 2017

A young girl and a young man with progressive quadriparesis due to non traumatic spontaneous atlanto-occipital dislocation were managed by microsurgical reduction, fusion and stabilization of the joint by occipital condylar and C1 lateral mass screw and plate fixation after mobilization of vertebral artery.

In both cases condylar joints fixation and fusion were done successfully. Condylar joints stabilization and fusion may be a good /or alternative option for AOD <sup>2)</sup>.

## 2010

A 11-year-old child with AOD was initially treated unsuccessfully with a halo device for 3 months. As instability persisted, an isolated C0-C1 fusion was performed from a posterior approach. This anatomically based intraarticular fusion technique comprises removal of the articular cartilage of the atlantooccipital joints, and cancellous bone autografting at the atlantooccipital joints and between the occiput and posterior arch of C1, supported by an occipital plate linked by rods to lateral mass screws in the atlas.

This technique of increased bony fusion surface and internal fixation provided an excellent result with full recovery of minor neurologic deficits. At long-term follow-up, 9 years after surgery, the patient was free of signs and symptoms; solid fusion of the C0-C1 joint, and normal values for rotation of the C1-C2 segment were recorded.

Intraarticular and posterior fusion of the atlantooccipital joint was able to provide an excellent long-term clinical outcome in the treatment of traumatic AOD in a child. This is the first report of an intraarticular fusion of the C0-C1 segment and the longest follow-up published on isolated C0-C1 stabilization <sup>3)</sup>.

## 2006

A 46-year-old woman suffered an AOD after a motor vehicle crash.

The signs of AOD are often subtle, and the possibility of this diagnosis must be kept in mind in all patients with a neck injury, even in the absence of neurologic signs. A systematic approach to assessing the cranio-cervical relationship on the lateral cervical x-ray and the appropriate use of CT scanning is essential to identifying AOD. Through this case report we hope to familiarize clinicians with mechanisms of injury and appropriate imaging interpretation that will assist in the diagnosis of AOD <sup>4)</sup>.

<sup>1)</sup>

Uppar AM, Pruthi N. Hypoglossal nerve palsy in a case of spontaneous atlanto-occipital dislocation - a rare clinical finding in a rare clinical entity. And its complete recovery following corrective surgery. World Neurosurg. 2020 Jan 25. pii: S1878-8750(20)30139-X. doi: 10.1016/j.wneu.2020.01.121. [Epub ahead of print] PubMed PMID: 31991230.

2)

Chowdhury FH, Haque MR, Alam SM, Chowdhury NK, Khan SI, Goel A. Condylar joint fusion and stabilization (by screws & plates) in nontraumatic atlanto-occipital dislocation (AOD). Technical report of two cases. World Neurosurg. 2017 Jul 29. pii: S1878-8750(17)31227-5. doi: 10.1016/j.wneu.2017.07.127. [Epub ahead of print] PubMed PMID: 28765028.

3)

Jeszenszky D, Fekete TF, Lattig F, Bognár L. Intraarticular atlantooccipital fusion for the treatment of traumatic occipitocervical dislocation in a child: a new technique for selective stabilization with nine years follow-up. Spine (Phila Pa 1976). 2010 May 1;35(10):E421-6. doi: 10.1097/BRS.0b013e3181c91fa1. PubMed PMID: 20393390.

4)

McKenna DA, Roche CJ, Lee WK, Torreggiani WC, Duddalwar VA. Atlanto-occipital dislocation: case report and discussion. CJEM. 2006 Jan;8(1):50-3. PubMed PMID: 17175632.

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