Atlantooccipital anomaly treatment

The natural history of atlantooccipital anomaly is unknown. The neurological symptoms may develop very late, and show slow progression, because the associated atlantoaxial instability progresses with age, and the increased strain placed on the C1–C2 interval produces gradual spinal cord or vertebral artery compromise.

Treatment is difficult. Surgery for atlantooccipital anomalies is more risky than for isolated anomalies of the odontoid. For this reason, nonoperative methods should be attempted initially. Cervical collars, braces, and traction often help for persistent complaints of head and neck pain, especially after minor trauma or infection. Immobilization may achieve only temporary relief if neurological deficits are present. Patients with evidence of a compromised upper cervical area should take precautions not to expose themselves to undue trauma.

When symptoms and signs of C1–C2 instability are associated with atlantooccipital anomalies, a posterior occipitocervical fusion is indicated. Preliminary traction to attempt reduction is used if necessary. If reduction is possible and there are no neurological signs, surgery has a better outcome. In posterior instability, there is an increased risk of pseudarthrosis and graft resorption after isolated posterior fusion. An anterior transoral fusion can be offered, but its results are variable due to the relatively thin anterior border of the occiput. Posterior signs and symptoms may be an indication of posterior decompression, depending on the evidence of dural or osseous compression. Results vary from complete resolution to increased deficits and death. In the instance of no instability but only compressive pathology, the role of concomitant posterior fusion has not yet been determined. However, if decompression destabilizes the spine, concomitant posterior fusion should be considered. [1)]

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https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2656787/#CR32