



Case Reports & Case Series

Myelopathy resolution after Chiari I malformation (CIM) decompression: Video clip case report and microsurgical technique



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Abstract

Chiari I malformation (CIM) is a well-known condition affecting 1% of the population [1–4]. Patients are evaluated with magnetic resonance imaging (MRI); sagittal T2-weighted MRI of the cervical and thoracic spine is helpful for diagnosis. Flexion and extension dynamic X-rays of the cervical spine can rule-out craniocervical and spinal instability. Typical presenting symptoms include severe suboccipital headaches worsening with Valsalva maneuvers, myelopathy, and brainstem-related symptoms. Postoperatively, neurological symptoms and myelopathy were reported to improved/resolved in 73% of adult and 84% of pediatric patients; headaches were reported to improved/resolved in 73% of adult and 88% of pediatric patients [2]. Although a common operation, a video case report of microsurgical decompression of CIM has not been previously published in the literature.

This video depicts the surgical case of 32 y/o male with CIM presenting with severe myelopathy and gait difficulties. We performed decompressive suboccipital craniotomy and C1 laminectomy, followed by microsurgical decompression of the craniocervical junction subarachnoid spaces. We opened the Foramen of Magendie, and the left and right cerebello-medullary cisterns, re-establishing the cerebrospinal circulation across the craniospinal subarachnoid spaces. Closure was performed with bovine pericardium allograft that enlarged the dural sac. Fibrin glue and fat tissue autograft (with fat harvested from the

patient's periumbilical area at surgery start) was used for closure and to prevent cerebrospinal fluid leak and pseudomeningocele formation.

We followed the patient after 3 weeks and 3 months post-operatively—his myelopathy completely resolved. Further follow up continued every 6 months.

Written consent was obtained directly from the patient.

Declaration of Competing Interest

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.inat.2019.100497>.

Abbreviations: CIM, Chiari I malformation; MRI, magnetic resonance imaging

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