Foramen magnum decompression

- A comparison of prone versus sitting position for the surgical treatment of Chiari malformation type I in children
- Resolution of tension pseudomeningocele complicating foramen magnum decompression for Chiari I malformation after ventriculoperitoneal shunt: A case report
- Sleep apnea in patients with achondroplasia associated with foramen magnum stenosis
- Vertebral Coccidioidomycosis With Craniocervical Junction Instability and Ventral Displacement of C1 in a Pregnant Woman: A Case Report and Literature Review
- A Case Report of an Adverse Outcome: Development of a Dural Arteriovenous Fistula Following Foramen Magnum Decompression for Chiari Malformation
- A Novel Metric for Assessing Long-Term Outcomes in Adults with Chiari Malformation Type I: Occipitocervical Dura Angulation (ODA)-Applications and Value
- Radiographical changes and clinical prognosis after cervical laminectomy with posterior instrumented fusion for degenerative cervical myelopathy
- An infant with achondroplasia worsening of the foramen magnum stenosis during early vosoritide treatment

Chiari type 1 deformity clinical features may present due to compression of brain stem at the level of the foramen magnum.

see Posterior fossa decompression for Chiari malformation.

CSF-filled C2 bone cyst after foramen magnum decompression [1].

Case reports

A 76-year-old woman presented with a history of several years of bilateral upper extremity and chest-back pain. CM-1 and syringomyelia were diagnosed. The pain proved drug resistant, so foramen magnum decompression (FMD) was performed for pain relief. After FMD, magnetic resonance imaging showed shrinkage of the syrinx. Pain was relieved, but bilateral finger, upper arm and thoracic back pain flared-up 10 months later. Due to pharmacotherapy resistance, SCS was planned for the purpose of improving pain. A percutaneous trial of SCS showed no improvement of pain with conventional SCS alone or in combination with Contour™, but the combination of FAST™ and Contour™ did improve pain. Three years after FMD, percutaneous leads and an implantable pulse generator were implanted. The program was set to FAST™ and Contour™. After implantation, pain as assessed using the McGill Pain Questionnaire and visual analog scale was relieved even after reducing dosages of analgesic. No adverse events were encountered.

Percutaneously implanted SCS using FAST™ may be effective for refractory pain after FMD for CM-1 with syringomyelia [2]

Achondroplasia is the most common skeletal dysplasia and is associated with serious complications such as foramen magnum stenosis (FMS). This case report describes an infant with achondroplasia who presented with a syndrome of inappropriate antidiuretic hormone secretion (SIADH), secondary to significant FMS and myelocompression. A 2-month-old boy with prenatally diagnosed

achondroplasia was referred due to disordered breathing and altered consciousness. On admission, apathy, hypotonus, and hypothermia with typical features of achondroplasia were noticed. Laboratory investigations revealed severe hyponatremia and hypochloridaemia with normal glucose and urea levels. The diagnosis of SIADH was made based on low serum osmolality in the presence of high urine osmolality, along with an elevated copeptin level. An emergency computerized tomography showed a high-grade stenosis at the cranio-cervical junction; subsequent magnetic resonance imaging demonstrated myelocompression. The patient underwent decompression surgery the next day; serum osmolality increased after the operation. Spontaneous breathing after extubation was sufficient whereas tetraplegia persisted despite intensive physiotherapy. Clinicians should be aware of SIADH as a presenting sign of FMS in children with achondroplasia. Further discussion is warranted regarding improving parental education and timing of screening recommendations [3)]

1)
Abdalla MA, Khan F, Johnston F, Hettige S. CSF-filled C-2 bone cyst after foramen magnum decompression: a case report and review of the literature. Acta Neurochir (Wien). 2022 Nov 7. doi: 10.1007/s00701-022-05391-8. Epub ahead of print. PMID: 36342541.

2)
Yamana S, Oiwa A, Nogami R, Fuga M, Kawamura D, Nakayama Y, Sano T, Murayama Y, Ohashi H. Successful spinal cord stimulation using fast-acting sub-perception therapy for postoperative neuropathic pain of syringomyelia with Chiari malformation type 1 a case report and literature review. BMC Neurol. 2024 Aug 13;24(1):284. doi: 10.1186/s12883-024-03789-8. PMID: 39138444.

3)
Cebeci AN, Hebert S, Reutter H, Rompel O, Woelfle J. SIADH as a Rare Complication of Foramen Magnum Stenosis in an Infant With Achondroplasia. JCEM Case Rep. 2024 Aug 5;2(8):luae144. doi: 10.1210/jcemcr/luae144. PMID: 39104442; PMCID: PMC11298690.