Craniovertebral junction surgery

- Ponticulus Posticus: Espy before Apocalypse in Craniovertebral Junction Surgery
- Posterior extradural transpedicular monolateral odontoidectomy (PETMO): a technical note
- A Case Report of an Adverse Outcome: Development of a Dural Arteriovenous Fistula Following Foramen Magnum Decompression for Chiari Malformation
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- Atlantoaxial instability in Chiari formation- an analysis based on static and dynamic head imaging in 35 patients

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Endoscopic approaches to the craniovertebral junction (CVJ) have been established as viable and effective surgical treatments in the past decade. One of the major complications is leakage of the cerebrospinal fluid (CSF). A study aimed to investigate the efficacy and feasibility of suture closure at the nasopharyngeal mucosa upon durotomy.

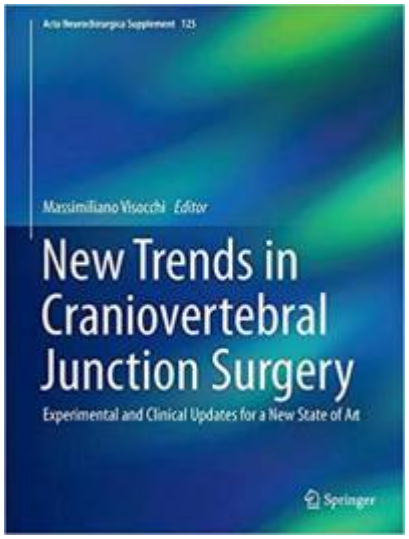
A series of consecutive patients who underwent different endoscopic approaches to the CVJ were retrospectively reviewed. The pathologies, surgical corridors, neurological and functional outcomes, radiological evaluations, and complications were analyzed. Different strategies of repair for the intraoperative CSF leakage were described and compared.

A total of 22 patients covering 13 years were analyzed. There were 12, 2, and 8 patients who underwent transnasal, transoral, and combined approaches, respectively. There were 8 patients (36.4%) who experienced intraoperative CSF leakage, and were grouped into 2: 4 in the nonsuture (NS) group and 4 in the suture-repaired (SR) group. The NS group had 3 (75%) persistent CSF leakages postoperation that caused 1 mortality, whereas patients of the SR group had only 1 minor CSF rhinorrhea that healed spontaneously within days.

In this series of 22 patients who required anterior endoscopic resection of pathologies at the CVJ, there was 1 (4.5%) serious complication related to CSF leakage. For patients who had no durotomy, the mucosal incision at the nasopharynx usually healed rapidly and there were few procedure-related complications. For patients with intraoperative CSF leakage, suture closure was technically challenging but could significantly lower the risks of postoperative complications [1)].

Books

New Trends in Craniovertebral Junction Surgery: Experimental and Clinical Updates for a New State of Art (Acta Neurochirurgica Supplement)



This issue of Acta Neurochirurgica presents the latest surgical and experimental approaches to the craniovertebral junction (CVJ). It discusses anterior midline (transoral transnasal), posterior (CVJ craniectomy laminectomy, laminotomy, instrumentation and fusion), posterolateral (far lateral) and anterolateral (extreme lateral) approaches using state-of-the-art supporting tools. It especially highlights open surgery, microsurgical techniques, neuronavigation, the O-arm system, intraoperative MR, neuromonitoring and endoscopy.

Endoscopy represents a useful complement to the standard microsurgical approach to the anterior CVJ: it can be used transnasally, transorally and transcervically; and it provides information for better decompression without the need for soft palate splitting, hard palate resection, or extended maxillotomy. While neuronavigation allows improved orientation in the surgical field, intraoperative fluoroscopy helps to recognize residual compression. Under normal anatomic conditions, there are virtually no surgical limitations to endoscopically assisted CVJ and this issue provides valuable information for the new generation of surgeons involved in this complex and challenging field of neurosurgery.

Unclassified

A Balanced Perspective on Surgery of the Craniovertebral Junction [2].

1)
Yeh MY, Huang WC, Wu JC, Kuo CH, Chang HK, Tu TH, Chang PY, Yen YS, Cheng H. Suture Repair in Endoscopic Surgery for Craniovertebral Junction. Neurospine. 2019 Jun;16(2):257-266. doi: 10.14245/ns.1938174.087. Epub 2019 Jun 30. PubMed PMID: 31261465.
2)
Fehlings MG, Badhiwala JH. A Balanced Perspective on Surgery of the Craniovertebral Junction. Neurospine. 2019 Jun;16(2):216-218. doi: 10.14245/ns.19edi.007. Epub 2019 Jun 30. PubMed PMID: 31261458.

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