Endoscopic assisted retrosigmoid approach

Case series

In a study, Corrivetti et al. described the surgical treatment of 3 cases of intracanalicular vestibular schwannomas (ICVSs) with an endoscopic assisted retrosigmoid approach (EARSA), highlighting the advantages and limitations of flexible endoscopy in accomplishing a safe radical resection with hearing preservation. Three patients with an ICVS underwent surgery via a flexible endoscopic-assisted microneurosurgical retrosigmoid approach. Flexible endoscopic assistance allowed the identification of residual tumor located in the most lateral portion of the fundus of the internal auditory canal in all cases. Endoscopic controls and further microsurgical resection were attempted, and complete surgical resection was achieved in all cases without the occurrence of postoperative facial or auditory nerve dysfunction. Flexible endoscopy appears to be particularly useful and safe in the surgical management of ICVS by microneurosurgery via an EARSA [1)].

Ricci et al. carried out a prospective study in a tertiary referral center observing 12 (5 male, 7 female) patients, mean age 57.5 years (range 49-71) affected by hemifacial spasm, that underwent to an endoscope assisted retrosigmoid approach for microvascular decompression. We evaluated intra-operative findings, postoperative HFS resolution and complication rates.

Hemifacial spasm resolution was noticed in 9/12 (75%) cases within 24h after surgery and in 12/12 (100%) subjects within 45 days. A significant ($p<0.001$) correlation between preoperative historical duration of hemifacial spasm and postoperative recovery timing was recorded. Only 1 patient had a complication (meningitis), which resolved after intravenous antibiotics with no sequelae. No cases of cerebrospinal fluid leak, facial palsy or hearing impairment were recorded. Hemifacial spasm recurrence was noticed in the only subject where the neurovascular conflict was due to a vein within the internal auditory canal.

The endoscope assisted retrosigmoid approach technique offers an optimal visualization of the neurovascular conflict thorough a minimally invasive approach, thus allowing an accurate decompression of the facial nerve with low complication rates. Due to the less invasive nature, the procedure should be considered in functional surgery of the cerebellar pontine angle as hemifacial spasm treatment, specially when the procedure is performed by an otolaryngologist [2)].

Case reports

Safain et al. present a 35-year-old woman with left sided tongue numbness and lower lip paresthesias with a CPA epidermoid. An endoscopic assisted retrosigmoid approach was utilized for resection. A 30-degree endoscope was used to assist in removal of unseen tumor in Meckel's cave, medial to the lower cranial nerves, and along the ventral pons. The video can be found here: http://youtu.be/bv0lMPbX7BY

<html><iframe width="560" height="315" src="https://www.youtube.com/embed/bv0lMPbX7BY" frameborder="0" allow="accelerometer; autoplay; encrypted-media; gyroscope; picture-in-picture" allowfullscreen></iframe></html> [3)].

1)

Corrivetti F, Cacciotti G, Giacobbo Scavo C, Roperto R, Mastronardi L. Flexible Endoscopic-Assisted Microsurgical Radical Resection of Intracanalicular Vestibular Schwannomas by a Retrosigmoid Approach: Operative Technique. World Neurosurg. 2018 Jul;115:229-233. doi: 10.1016/j.wneu.2018.04.108. Epub 2018 Apr 26. PubMed PMID: 29704694.

2)

Ricci G, Di Stadio A, D'Ascanio L, La Penna R, Trabalzini F, Della Volpe A, Magnan J. Endoscope-assisted retrosigmoid approach in hemifacial spasm: our experience. Braz J Otorhinolaryngol. 2018 May 9. pii: S1808-8694(18)30179-4. doi: 10.1016/j.bjorl.2018.03.015. [Epub ahead of print] PubMed PMID: 29784621.

3)

Safain MG, Dent WC, Heilman CB. An endoscopic assisted retrosigmoid approach to the cerebello-pontine angle for resection of an epidermoid cyst. Neurosurg Focus. 2014 Jan;36(1 Suppl):1. doi: 10.3171/2014.V1.FOCUS13437. PubMed PMID: 24380529.