Endoscope assisted microsurgery

see also Endoscope assisted retrosigmoid intradural suprameatal approach.

Endoscope assisted microsurgery (EAM) techniques are employed to improve visualization of the surgical field while minimizing brain retraction and trauma to neurovascular structures. There have been several reports in the literature on the indications and advantages of endoscopic-assisted techniques when operating at the craniovertebral junction (CVJ).

The literature review supports the utility of the endoscope in the transoral, transcervical, lateral, far lateral and posterolateral approaches. In particular EAM can be used in the transoral approach to increase surgical exposure of the clivus and minimize the need to split the soft palate while in the far lateral and posterolateral approaches, EAM can improve visualization down narrow or deep surgical corridors to help identify critical neurovascular structures and minimize the need for extensive bony removal. In general, the endoscope can be used to look around bony, vascular, or neoplastic lesions to visualize the surgical space behind these structures as well as to assess for tumor remnants after microsurgical resection.

EAM techniques can improve illumination and visualization of the surgical field at the CVJ. In addition, the EAM techniques can help to minimize the need for brain retraction or extensive exposures. Utilization of both the endoscope and the microscope allows the surgeon to benefit from the advantages of each modality [1].

1)
Chotai S, Kshettry VR, Ammirati M. Endoscopic-assisted microsurgical techniques at the craniovertebral junction: 4 illustrative cases and literature review. Clin Neurol Neurosurg. 2014 Jun;121:1-9. doi: 10.1016/j.clineuro.2014.03.004. Epub 2014 Mar 13. Review. PubMed PMID: 24793465.