Inferolateral Transorbital Endoscopic Approach

Transorbital endoscopic approaches are increasing in popularity as they provide several corridors to reach lateral areas of the ventral skull base through the orbit.

Seven cadaveric specimens (14 sides) were dissected in the Laboratory of Endoscopic Anatomy of the University of Brescia. Step-by-step dissection of ILTEA was performed to identify the main anatomic landmarks and corridors. Skin incision, dural incision, and boundaries of craniectomy were measured. Neuronavigation was used to check landmarks, track boundaries of surgical volumes, and measure orbital dislocation.

The study on the 14 ILTEAs defined 1 anatomic area (“waterline door”) that leads to 4 corridors: Meckel's cave corridor, carotid canal corridor, petrous corridor, and transdural middle fossa corridor. Crucial anatomic landmarks were identified and analyzed. Orbital dislocation was <10 mm.

ILTEA provides the surgeon with a direct route to the region of the “waterline door,” lateral areas of the ventral skull base, and middle cranial fossa. In addition, it allows an optimal view of the intracranial and extracranial portions of the maxillary nerve and mandibular nerves. Further anatomic and clinical studies are needed to validate ILTEA in surgical practice [1)].

1)
Ferrari M, Schreiber A, Mattavelli D, Belotti F, Rampinelli V, Lancini D, Doglietto F, Fontanella MM, Tschabitscher M, Rodella LF, Nicolai P. The Inferolateral Transorbital Endoscopic Approach: A Preclinical Anatomic Study. World Neurosurg. 2016 Jun;90:403-13. doi: 10.1016/j.wneu.2016.03.017. Epub 2016 Mar 14. PubMed PMID: 26987633.