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O-005 - ENDOSCOPIC SINUS APPROACHES VS. TRANSCRANIAL ANTERIOR PETROSECTOMY: A VOLUMETRIC COMPARATIVE STUDY OF ACCESS TO THE PETROUS BONE AND THE PETROUS APEX

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Resumen

Introduction: The petrous bone (PB) and it petrous apex (PA) are complex regions in the skull base. Surgical approaches to access these structures all have limitations for achieving maximal tumor resection with minimal morbidity.

Objectives: To evaluate petrous access by examining volume of removed bone via 5 different approaches: anterior petrosectomy “Hakuba-Kawase-Dolenc” (HKD) approach, endoscopic endonasal transclival approach (EETA), EEAT with internal carotid artery lateralization (ICA), contralateral transmaxillary approach (CTM) and CTM with ICA.

Methods: 10 cadaveric specimens were dissected. Endoscopic techniques with/without contralateral Caldwell-Luc approaches were performed and compared with a classic open technique (HKD). Pre-and post-dissection CT scans were obtained of the volume resected. Analyses of them and surgical aspects of the techniques are discussed with presentation of 2 cases.

Results: For the PA, the greatest quantities of bone were resected via the HKD, CTM and CTM+ICA. The HKD showed 71.2% (± 1.87) resected; CTM 58.1% (± 6.8); and CTM + ICA 67.2% (± 3.86). There was no significant difference between HKD and CTM+ICA (p = 0.741). There was also difference in the percent resected via CTM or CTM+ICA for the PA, but there was a trend (p = 0.104). For the PB, the CTM+ICA provided the greatest quantity of bone resected (81.0% ± 1.1) followed by CTM (69.6% ± 10.9), with no significant difference between them (p = 0.125). The volume of PB resected with HKD was 46.8% ± 5.2; CTM and CTM+ICA showed significantly greater resection compared to the HKD (p = 0.001 and p 0.0001 respectively).

Conclusions: The CTM approach offers a new corridor to reach the petroclival region. The CTM provides access to lateral and inferior extension into the PB while minimizing complex maneuvers diminishing the morbidity of the endoscopic. For petrous or petroclival lesions, the CTM+ICA provides similar access to the PA as the HKD and superior access to the PB.