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O-008 - ENDOSCOPIC TRANSORBITAL APPROACH TO THE PETROUS APEX: IS LATERAL ORBITAL RIM REMOVAL WORTH FOR THE EXPOSURE?

A. Mosteiro¹, A. Di Somma¹, A. Ferrés¹, G. Guizzardi¹, T.E. Topczewski¹, L.A. Reyes¹, J. Enseñat¹ and A. Prats-Galino²

¹Hospital Clínic de Barcelona, Barcelona, Spain; ²Universitat de Barcelona, Barcelona, Spain.

Resumen

Introduction: The lateral transorbital approach has demonstrated to be a feasible ventral endoscopic route to access the petrous apex. Despite this, it has been claimed as a deep and narrow corridor for anterior petrosectomy. Particularly, medialization of the instruments can become an issue when targeting the petroclival area. To overcome this limitation, removal of the lateral orbital rim has been suggested, but not de facto compared.

Objectives: To test whether removal of the lateral orbital rim during the endoscopic transorbital approach augments the surgical exposure and freedom of movement when accessing the petrous apex area.

Methods: Three human cadaveric heads (6 sides) were dissected at our Laboratory of Surgical NeuroAnatomy. First, anterior petrosectomy was performed by conventional endoscopic transorbital route. Second, en bloc removal of the lateral orbital rim. Qualitative and quantitative comparisons were made between both alternatives, including working area, maneuverability and working angle.

Results: The lateral transorbital route allowed to perform an anterior petrosectomy in all specimens. The landmarks of bone removal are superposed to those in the transcranial route. Postdissection CT scan ruled out significant morbidity (i.e., opening of the internal acoustic meatus, inner ear or carotid canal). Removing the lateral orbital rim increased the latero-medial angulation of the instruments and thus improved the exposure of the most medial area, favouring access to the petro-clival area without changing the angle of the lens. Temporal lobe retraction did not seem to increase, however, partial disinsertion and traction of the temporalis muscle are needed.

Conclusions: We provide the first formal anatomic comparison of the conventional transorbital approach versus the extended approach with lateral rim removal, to access the petrous apex. According to our data, the latter significantly improves surgical exposure and comfort. The defect can be reconstructed to avoid cosmetic deformities, maintaining the minimally disruptive concept of transorbital surgery.