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Temporal Bone Chondrosarcomas: Role of Transcranial versus Endoscopic Skull Base Approaches

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Resumen

Introduction: Chondrosarcomas are malignant tumors whose natural history covers the biological spectrum from indolent to locally aggressive tumors to those that are prone to systemic recurrence. Our data for the skull base shows the impact of multimodality treatment tailored to histology. Regardless of histology, surgery is the cornerstone in the management of this disease; and the ability to achieve a maximal resection impacts disease-specific. However, there is limited data to guide approach selection. No single study to date has accounted for the fact that chondrosarcomas arise from different sites within the skull base and, as a result, are associated with unique surgical considerations.

Methods: In this presentation, I will discuss our institutional experience with skull base chondrosarcomas treated from 1993-2016. A retrospective study of our experience was performed to provide insight into outcomes by site of origin and factors affecting resection in order to aid in surgical approach selection.

Results: The gross total resection rate for the overall cohort was 65.2%, and 97.8% of patients were either neurologically stable/improved postoperatively. A petroclival site of origin had lower rates of resection versus all other sites ($p < 0.05$). Histology and previous surgery did not predict outcome (> 0.05) while previous radiotherapy and cavernous sinus invasion correlated with a subtotal resection ($p < 0.05$). In the petroclival cohort, clival, jugular tubercle and soft tissue involvement correlated with a subtotal resection ($p < 0.05$). An endoscopic endonasal transpterygoid approach alone or combined with a transcranial approach yielded the highest resection rates for petroclival tumors ($p < 0.05$).

Conclusions: Chondrosarcomas pose unique challenges based on site of origin and extracompartmental extension. While current surgical strategies appear to yield adequate results at a majority of skull base sites, petroclival tumors represent a particular cohort where improvement is needed. Based on our analysis, strategies incorporating both endoscopic and transcranial skull base approaches are likely necessary to achieve optimal outcomes.