

Endoscopic transnasal surgery for skull base chondrosarcomas.

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Introduction:

Skull base chondrosarcomas are low-grade, malignant tumors arising from cartilage tissue. Intracranial chondrosarcomas are rare tumors comprising only 0.1-0.2% of all brain neoplasms. In skull base 2 out of 4 pathologic subtypes occur: conventional chondrosarcoma and mesenchymal chondrosarcoma. Although distant metastases are rare, tumors often invade surrounding bone and compress critical anatomical structures including internal carotid artery or cranial nerves. Treatment involves surgery and adjuvant radiation therapy. Endoscopic transnasal surgery (ETS) gives the most direct approach to the tumor in this region.

Aim of the study:

Analysis of clinical presentation, safety and early clinical outcomes of ETS for skull base chondrosarcomas.

Materials and methods:

This study is a retrospective analysis of patients who underwent surgery for skull base chondrosarcoma in our institution between 2010 and 2019. From the total number of 15, 11 patients who underwent ETS were included into a retrospective analysis.

Results:

More than a half of the group presented with oculomotor deficits (55%, n =6), 27% with hearing loss, 10% with facial paresthesia and 18% of our patients did not have any symptoms. In more than a half cases tumors invaded the dura (64%, n=7). In 27% of cases total resection was possible. Symptoms subsidence was observed in 45% (n=5) patients and in 45% (n=5) of cases symptoms decreased. Majority of neoplasms were histologically grade 2 tumors (64%, n=7). Majority of patients underwent adjuvant proton beam therapy (82%, n=9). Recurrence of the tumor after ETS was observed in one patient, who did not undergo proton beam therapy previously.

Conclusion:

Endoscopic transnasal approach for skull base chondrosarcomas offers maximum safe access for biopsy and for resection to alleviate the symptoms. Gross total resection in many cases is not possible due to adjacent critical structures. Resection and subsequent proton beam therapy lead to satisfactory tumor control without progression.

Keywords: chondrosarcoma, endoscopic transnasal surgery