Technical Considerations in Avoiding Sinonasal Tumor Recurrences

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ABSTRACT

INTRODUCTION

Endoscopic techniques introduced primarily for inflammatory disease have evolved to include the surgical management of other pathology, including sinonasal tumors. Refinement of surgical experience and instrumentation have made successful resection of benign and malignant tumors possible. We present our series of endoscopic tumor surgery (benign & malignant) to highlight the following: Endoscopic tumor surgery is like endoscopic surgery for inflammatory paranasal sinus disease.

METHODS AND MATERIALS

A retrospective review of all endoscopically treated sinonasal tumors from January 2002 to January 2012 at the George Washington University was performed. Patient demographics, tumor characteristics, endoscopic surgical approaches, and complications with a specific emphasis on reoperations and tumor recurrences were analyzed.

RESULTS

Sixty-four operative procedures were performed in 50 patients. Pathologies included 39 benign (21 IP, 5 JNA, 3 fibro-osseous lesions, 3 meningiomas, 2 lymphomas, 5 assorted lesions) and 11 malignant (2 esthesioneuroblastomas, 3 SCC, 2 olfactory carcinomas, 1 SNUG, 1 hemangiopericytoma, 1 NPC, and 1 ACC) tumors. Fourteen reoperations (21%) were performed secondary to tumor recurrence (9 cases) or residual tumor (5 cases). The majority of reoperations resulted from inadequate surgical exposure, incomplete adherence to oncological principles, excessive concern for functional preservation, and lack of a well-defined reproducible technique. Tumor biology played a key role in a small fraction of cases.

DISCUSSION

Endoscopic techniques for sinonasal tumor resection are largely dissimilar to endoscopic surgery for inflammatory disease. Endoscopic surgery for chronic rhinosinusitis promotes techniques for mucosal sparing, sinonasal functional preservation, and creation of small conservative drainage pathways. Endoscopic tumor surgery often requires wide surgical access to aid in “en-bloc” resection of tumor, in particular malignancies (e.g. esthesioneuroblastoma). Aggressive mucosal and bone removal is often necessary to decrease the recurrence rate of certain tumors (e.g inverting papilloma). Finally, functional preservation, although important should never come at the cost of creating wide access to achieve gross total resection and negative margins.

CONCLUSION

Advances in endoscopic techniques, equipment, and experience have increased the number of sinonasal tumors being treated endoscopically. Wide surgical access, adherence to oncologic principles, and well-defined endoscopic techniques are paramount for successful treatment of these tumors. It is imperative that the endoscopic tumor surgeon balance oncologic principles with functional preservation.

REFERENCES