INTRODUCTION

Tumors that involve the orbit can be classified into two major groups: primary tumors of the orbit and tumors of other subsites that extend into the orbit (e.g. sinonasal carcinoma). The most common primary orbital tumors include lymphoid tumors, cavernous hemangiomas, meningiomas (in adults), and dermoid cysts, capillary hemangiomas, fibromas, lymphangiomas, hemangiomas, and metastases. Secondary tumors to the orbit are multifocal with up to 80% of all patients presenting with multiple lesions.

RESULTS

The characteristics of our entire patient cohort are summarized in Table 1. The Medial/Inferior Endonasal Approach was performed frequently, on 7/15 (47%) patients. The Medial/Inferior Intracranial Approach was the second most common approach to remove the orbit on 3/15 (20%) of our cohort. The Lateral Transmaxillary Approach was used more sparingly (1/15) and was indicated only in complex cases in which the mass was uniquely or partially located in the anatomic barriers of the orbit.

DISCUSSION

Several key anatomic principles must be adhered to for safe resection of orbital tumors with an endonasal approach. First, it is critical to avoid crossing the optic nerve. Thus, the dissection should occur between muscle groups rather than directly adjacent to the optic nerve. Additionally, the dissection should be performed in a retrobulbar plane to avoid exiting the orbit and preserving vision. Finally, the dissection should be performed in a retrobulbar plane to avoid exiting the orbit and preserving vision.}

METHODS AND MATERIALS

We retrospectively reviewed the clinical and surgical outcome data of the first 15 patients who underwent expanded endonasal approaches for primary orbital tumors at the University of North Carolina – Chapel Hill and the University of Pittsburgh. The endonasal approaches were performed by the Department of Otolaryngology – Head and Neck Surgery, University of North Carolina – Chapel Hill and the Department of Neurological Surgery, University of Pittsburgh Medical Center.

CONCLUSIONS

We have defined three corridors for endoscopic approaches to orbital tumors: 1. a medial and inferior approach for extraconal lesions, 2. a medial intraconal approach with displacement of the medial rectus muscle and intraconal dissection between the inferior and medial rectus muscles, and 3. a lateral, medial, and inferior approach with displacement of the inferior rectus muscle.

REFERENCES